MANUAL

for

COUNTY INSTITUTES

JUNE, 1912

Issued by the

Department of Education

LITTLE ROCK, ARKANSAS

GEO. B. COOK, Superintendent

Democrat Print. & Litho. Co., Little Rock

Ark. Dept of Public Instruction

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FOREWORD

Institute work is of special importance at this time to the teachers of Arkansas. Conditions are rapidly improving throughout our public school system; particularly is this true of the rural schools. New laws govern the school administration, new opportunities for progress have been opened up, new studies have been added to the course of study, more practical methods of teaching are being called into practice, new responsibilities have been placed on the public schools and the teachers. The June Institute in your county offers peculiar opportunities for keeping abreast with local conditions.

The law, which requires the attendance of every teacher for a full week at the June institute, has certain recognized advantages which can not be ignored. Unless the license to teach, whatever its grade, is properly endorsed, from year to year, for institute attendance, that license is not valid and the teacher could not legally collect salary for teaching in the public school.

The Institute Manual should be the handbook of the teachers for the year. Special attention is called to the Outline for Elementary Agriculture. The quarterly examinations will be taken from the manual, and a review of the same is the best possible preparation for examination.

The Department of Public Instruction extends cordial thanks to those teachers who have contributed the valuable outlines for the different subjects in this manual.

The department also extends congratulations to the County Superintendents and Examiners and to the teachers for the generous and cordial support they have given the institutes during the past three years.

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SCHOOL IMPROVEMENT ASSOCIATION

FOR TOWN, CITY AND RURAL DISTRICTS.

The Department of Education is encouraging the organization of School Improvement Associations in all the school districts of the State.

During the past year associations of this character have been perfected in many cities, towns and rural districts and the benefits to the schools have been marked in every instance. Community pride and interest is the vital, the all-important factor in raising the standard and the efficiency of our schools.

Wherever School Improvement Associations have been organized, there has been a wonderful awakening in matters educational. There has been a banding together of school patrons—men and women—young and old for the single purpose of improving the school. Teachers, directors and patrons have been brought together for discussion, for intelligent understanding, co-operation and organization in matters educational. A School Improvement Association in any district stands for progress and uplift in the work of education in that district.

If there is no association in the district where you are teaching, will you not fill out the blank below, detach and hand to your County Examiner or mail to the State Superintendent at Little Rock? Literature for organizing an S. I. A. will then be mailed to you. DO THIS WITHOUT FAIL.

"I pledge to do all possible for the *Health, Beauty, Comfort and Attractiveness* of my school, and to organize a School Improvement Association in my community.

Signed_____

Postoffice_____ County_____

UNIVERSITY OF ARKANSAS, SUMMER SCHOOL

JUNE 17 TO JULY 27, 1912.

"Efficiency" is the watchword of the hour. So broad is it that from the statesman to the wage earner, the cry is for more efficiency. Since upon the teachers devolves the duty of moulding the lives of the men and women of the future, the cry of efficiency appeals most strongly.

In order to meet the demands of the teachers, the University of Arkansas offers to the teachers of the State a summer session, at which time courses along strictly professional lines by Professors Torreyson, Grant and Johnson will be offered, while observation work in the upper grammar grades by Miss Bland and in the primary grades by Miss Trail, may be done.

To those desiring to raise the grade of their certificates from Second or Third to First, from First to Professional, or from Professional to State, review and method work will be given in all common school and high school branches. Courses for college credit will also be offered.

There will be a series of lectures by noted educators. Special examinations for county and State licenses at the close of session. The following is an estimate of the cost of attendance for the six weeks:

Board and room	$22.00
Matriculation fee	10.00
Books, etc.	3.00
Total	$35.00

The railroads have promised a rate of one and one-third fares—certificate plan—from June 10 to July 31, good returning August 1.

The delightful climate of Fayetteville makes it an ideal place for a summer school.

For further information, address

W. S. JOHNSON,
Dean of Summer School,
Fayetteville, Ark.

ARKANSAS STATE NORMAL SCHOOL, SUMMER TERM

SIX WEEKS BEGINNING JUNE 10.

For years the teachers of Arkansas were forced to leave the State in order to secure such training as they felt essential to their success in their vocation. Each year sees many leaving us for the same purpose, though this is no longer necessary.

The establishment of the State Normal School marked an epoch in our educational history, and, in its three years' existence, more than eight hundred teachers have taken advantage of the opportunities there offered for improvement. Are you of that number?

The success of its summer terms has also been marked. It offers to those teachers, who can not attend the regular session, work in review of subject-matter, in study of methods, in problems in management, in special lines, such as will give ample returns for time and money spent in attendance.

The expense for the entire six weeks, exclusive of railroad fare—the various railroads will offer reduced rates over their lines—need not exceed thirty dollars. Can you stay at home for much less?

Primary teachers especially should be interested in the model school of forty pupils, doing work in the first four grades, under the direction of Miss Bell, of Little Rock, aided by her sister—two of the best primary teachers of the State.

The class and demonstration work in Science and Agriculture will be most interesting and profitable. The teachers of other subjects will shape their work with reference to the direct need of the students. The course of general lectures will be helpful and inspiring. You should make arrangements to attend the full time.

For full information and announcements, write to the President, J. J. Doyne, Conway, Ark.

TEACHERS' AND PUPILS' READING CIRCLES

The following books have been adopted for the Reading Circle Courses for 1912. The questions for the quarterly examinations, as far as practicable, will be based on the reading circle texts:

ARKANSAS TEACHERS' READING CIRCLE

PROFESSIONAL.

1. Chamberlain's Standards in Education—American Book Company.
2. A Brief Course in the Teaching Process (Strayen)—Macmillan Company.

CULTURAL.

1. Halleck's History of American Literature—American Book Company.
2. Gardens and Their Meaning—Ginn & Co.
3. Checking the Waste—Bobbs-Merrill.

ARKANSAS PUPILS' READING CIRCLE

SECOND GRADE.

Sunshine Annie—Bobbs-Merrill.
Tommie Tinker's Book—Little-Brown Company.
Anderson's Best Fairy Tales—Rand, McNally.
The Later Cave Men—Rand, McNally.

THIRD GRADE.

The Book of Folk Stories—Houghton-Mifflin Company.
Une San, In Japan—Little-Brown Company.

FOURTH AND FIFTH GRADES.

Black Beauty—Rand, McNally.
Great Inventions and Discoveries—Merrill & Co.
American History Story Book—Little-Brown Company.

SIXTH AND SEVENTH GRADES.

Florence Nightingale—Appleton Company.
Little Colonel's House Party—Doubleday-Page Company.
Anne of Green Gables—Doubleday-Page Company.
Polly Oliver's Problems—Houghton-Mifflin Company.

EIGHTH GRADE AND HIGH SCHOOL.

Hobson's In the Line of Duty—Appleton Company.
The High School Debate Book—McClurg Company.
Lamb's Tales of Shakespeare—Ginn & Co.
Industrial Studies—United States—Ginn & Co.

NATIONAL EDUCATIONAL ASSOCIATION

CHICAGO, JULY 6-12, 1912.

The advance announcements of the Fiftieth Annual Convention of the National Education Association, Chicago, July 6-12, 1912, are being sent out.

The location of this great educational gathering at Chicago is unusually convenient for Arkansas teachers and a large delegation from this State should take advantage of this opportunity to attend.

Very low railroad rates will be offered and arrangements will be made for special train service for the Arkansas party.

All those who can possibly arrange to attend the N. E. A. should address George B. Cook, State Superintendent of Public Instruction, Little Rock, and receive full information as to railroad rates, routes, hotel reservations, programs, etc.

REQUIREMENTS FOR DIFFERENT GRADES OF TEACHERS' CERTIFICATES

STATE AND COUNTY.

Three grades of county certificates are granted.

Third grade county certificates are granted upon passing an approved examination on United States History, Orthography, Penmanship, Reading, Arithmetic, Grammar, Geography and Elementary Agriculture.

Third grade certificates are valid for six months and subject to one renewal for institute attendance. (Average 70 per cent, minimum 60 per cent.)

Second grade county certificates require, in addition to above subjects, Arkansas History, Theory and Practice and Physiology. Second grade certificates are valid for one year and subject to two renewals for institute attendance. (Average 75 per cent, minimum 65 per cent.)

First grade county certificates require, in addition to second grade subjects, Civil Government and Elementary Algebra; valid for two years and subject to continued renewal for institute attendance. (Average 85 per cent, minimum 70 per cent.)

Examinations for county licenses are held quarterly at each county site, conducted by the County Examiner or County Superintendent, on the third Thursday and Friday of March, June, September and December. Questions furnished by the State Department. Applicants are required to pay a fee of two dollars into the county treasury.

Six grades of licenses valid throughout the State are issued.

1. Professional license, valid for six years, requires, in addition to all subjects for first grade county certificate, Rhetoric, General History, Plane Geometry and Complete Algebra. A fee of five dollars must be paid into the State treasury by all applicants for professional license. (Average 80 per cent, minimum 70

per cent.) A creditable, living first grade license may be used as the basis for professional license.

2. State certificate, valid for life, requires, in addition to all subjects for professional license, Zoology, Geology, Botany, Physics, Latin, Latin Grammar and Composition, four books of Caesar; Virgil and Cicero (two books of each or equivalent), Geometry (plane and first two books of solid, including exercises), and Mental Philosophy. (Average 80 per cent, minimum 70 per cent.) A fee of ten dollars is required to be paid into the State treasury by all applicants for State license. A professional license may be used as basis for State certificate.

3. The diploma of graduates of the State Normal School is a license to teach, good for six years and subject to extension for life.

4. The L. I. degree of the University of Arkansas is a six-year license to teach, subject to extension for life.

5. Diplomas of graduates of the Normal training departments of State high schools are licenses to teach, good for two years, and convertible into regular Normal diplomas after twelve months' teaching experience.

6. State first grade certificates, good for two years and subject to continuous renewal, may be secured by sending to the State Superintendent the examination papers upon which a first grade county certificate was issued, together with a fee of one dollar. If the papers pass satisfactory re-examination, a State first grade certificate will be issued.

Examinations for State and professional licenses are held annually, coincident with the June quarterly examinations, at Little Rock and at least three other places in the State.

State and professional licenses may be secured without examination based on State certificates from other States and upon degrees from accredited educational institutions by applicants having at least twelve months' successful teaching experience for State and six months for professional license. (Application forms secured from the State Superintendent.)

A PROGRAM FOR IMPROVEMENT OF RURAL SCHOOLS IN ARKANSAS

SOME OF THE ESSENTIALS.

It ought not to be necessary for any man in our State to have to remove from his home on the farm to secure better educational advantages for his children. A good system of schools in the rural districts will help immensely in solving the problem of developing the agricultural interests of the State. Better schools and better farming methods go hand in hand.

The Teacher.—One of the essentials for a good rural school is a *good* teacher. The rural school will be no better than the teacher in charge of the rural school. We need for our rural schools the best teachers that can be had—teachers who love the country, and, above all, love the boys and girls of the country. To secure the best teacher for the rural schools, an adequate salary must be paid; but, when such teacher is once secured, she should be retained and I am sure will be retained as long as it is possible to keep her.

The Building.—The next consideration for better school conditions in the rural communities is a comfortable and attractive school building. It should be a model for beauty and attractiveness and should be well located. There should be proper heating, ventilation and sufficient light. The necessary outbuildings should be kept clean and sanitary. A little work on the part of teachers and pupils has often made a school building or a school site a model of neatness and beauty that otherwise was uninviting and unattractive in every respect.

The Grounds.—The school grounds should be ample and centrally located, if possible, as regards the district. Good drainage and pure air should be assured. If possible, the grounds should be large enough to provide a small tract for school gardening and practical demonstration work in agriculture. Playgrounds should be large and well-cared for.

The Equipment.—The equipment should be complete and should consist of good maps, blackboards, globes, well-selected library and reference books. There should be a few well-selected pictures. The equipment need not be very expensive but should be well adapted to use in the rural school.

Course of Study.—A definitely planned course of study with subjects arranged in proper correlation and sequence—the work should be kept very close to essentials. The school life and the home life should be kept closely in touch.

Supervision.—Much loss has come to the country school because it has not had the benefit of the close supervision that has been available for the schools of cities and large towns. The law providing for the employment of a County Superintendent of Schools, who must be specially fitted for the work, and must give all his time to it, is one that holds promise of much good for our rural schools. The rural school deserves the best in supervision that can be had.

Community Support and Interest.—Perhaps the relation between the country school and the community is closer than in the case of any other class of schools. This vital relation between the school and the community should be recognized by the teacher, the parent and the citizen. Their efforts should be united to strengthen it and make it effective for mutual improvement.

The above outline gives in a brief way some of the essentials for an efficient rural school. They may be had in any community if proper attention is directed to them. To bring about these conditions, that are fundamental to an efficient system of rural schools, means work for all. Will you aid in this work?

J. L. BOND,

Professor of Elementary Education.

TO THE TEACHERS

Your attention is called to the opportunity for advancement offered by the present high school law under the terms of which certain high schools receive aid from the State. The law has two main purposes:

1. To place high school privileges within the reach of all pupils when they have finished the common school course in the rural schools.

2. To aid all teachers of rural schools in continuing their education.

Tuition in these schools is free to all pupils and teachers of the county in which the school is located.

You are therefore urged to take advantage of this opportunity to extend your preparation for better work in the schools and as a means by which you may secure a higher salary and deserve it. If you have had a full high school course, go to the University or some college if you can; if you have not had a high school course, go to the State Normal School or one of the State Normal training high schools, if you can; if you can do neither of these, by all means enter one of the State high schools for as long a period as possible each year. Even one month of study and observation will be of great service to you in your work. Most of them offer pedagogy and school management.

You are urged also to use your best efforts to induce boys and girls of your schools to enter these State high schools when they have completed the common school course. The schools are intended for youths of the rural districts, and you can render them and the State as well no better service. Twelve hundred of them have enrolled this year. Next year there should be three thousand.

STATE BOARD OF EDUCATION.

B. W. Torreyson, Secretary.

George B. Cook, Chairman.

PROGRAM

Morning.

Page.	Subject.	Time.
	Opening Exercises	8:30 to 8:45
14	Theory and Practice	8:45 to 9:15
32	Arithmetic	9:15 to 9:45
35	Elementary Agriculture	9:45 to 10:15
	Recess.	
52	Penmanship	10:30 to 11:00
56	Grammar	11:00 to 11:30
64	Reading	11:30 to 12:00
	Intermission.	

Afternoon.

68	Arkansas History	1:00 to 1:30
72	United States History	1:30 to 2:00
79	Orthography	2:00 to 2:30
	Recess.	
85	Physiology	2:45 to 3:15
88	Geography	3:15 to 3:45
94	Algebra	3:45 to 4:15
103	Civil Government	4:15 to Close

THEORY AND PRACTICE

CHAMBERLAIN'S STANDARDS IN EDUCATION.

FIRST DAY.

Author's Preface.

1. What are the principles of education? Make a list of such principles and retain it until your study of this book is completed; then revise this list.

2. What pedagogic principle to be applied in your teaching is derived from the statement that most books on psychology and education are too technical or too abstruse for the teacher?

3. In what subjects are illustrations most readily used? What forms may illustrations take? Note from day to day the value of *illustrations* in your teaching.

4. What do you understand by the term "common school"? It does not have reference to the grades.

5. Look up the life and work of Colonel Francis W. Parker. See his "Talks on Teaching".

Study the "Table of Contents" of each succeeding chapter before taking it up. Note the value of a careful analysis. After each chapter is studied make an analysis of it and compare with the "Table".

Chapter I—The Aim of Education.

1. What are the factors that determine the lines education should follow in any country or with any people?

2. Formulate as many definitions of education as you can and list them in the order of their importance. Do you think this is the order you would suggest if you lived in a large city?

In the country? In France or England? In your own locality a century ago? Preserve this list and revise it after you have completed your study.

3. Talk with the "old timers" of your acquaintance who in youth had as good an education as the day and location afforded. Contrast their views of the efficiency of the school of the then and the now.

How do the views of those men and women who in youth had little schooling, compare with the above?

4. In what terms is the value of a school education usually reckoned? Have the *great minds* of any period or century been the "school-trained" minds?

5. Thus far in your study what one word may be used to indicate the real value of any true system of education? What do you mean by character building? By moral training?

6. We speak of the *practical* things as the material things; the work we do with our hands is sometimes called practical, as distinguished from so-called "head-work". Consider this matter and discuss it.

7. Take the essential elements in the ideas held by both Plato and Aristotle and so articulate them as to form a satisfactory definition of education.

8. Is the conception of education as here stated an ideal? Do you know any school meeting the requirements imposed? Consider whether you are acquainted with any pupils or adults measuring up to these standards.

9. Take up the question as to whether it is easier for the school to mould sentiment, than for public opinion to change the tenor of the school.

10. Do schools seek primarily to teach so as to meet the demands of today, or do they attempt to teach mainly for the future? Consider your own school preparation in endeavoring to answer this question.

11. What is the accepted meaning of the term *society?* Does the average individual consider his duty to himself or that

to society as paramount? Picture the result should all people realize their individual duties to society and live up to these obligations.

12. When we attempt in school to have a pupil "merge his desire in the will of society", how do we ordinarily phrase the matter? Why must greater caution be used in dealing with children than with adults in this connection? Suggest a term to be used in the grown-up world comparable to discipline or deportment when applied to the school.

13. Explain the meaning of the sociological element. In arithmetic which receives greater consideration, the social or psychological sides? In history? In geography? In industrial training?

14. What meaning is conveyed by the term "re-act"? Why little opportunity?

15. Note the most significant statement on page 25. Compare notes and discuss. How do these views compare with those commonly held on this point?

16. Think of the man or woman of your acquaintance who seems to possess in greatest degree the type of knowledge suggested in first paragraph, page 26. Is it knowledge or the way knowledge is used that counts? Is this always true? Knowledge may be subject-matter and its manner of use the method. Withhold your final conclusions here for a later consideration.

17. Which is easier to acquire, knowledge, or a use of it? Do you know those who have many facts at command, but who are unable to use them to advantage? Do you know of those who have *power* to handle facts but who possess them not? Analyze the difficulties in each case.

18. Is there greater necessity today than existed formerly for recognition of the home, shop, farm, factory, community, in considering school standards? Explain.

19. Is there any relation between fact and reason on the one hand and cause and effect on the other? Why has more attention been given in school to facts than to reasons? Has cause or effect received chief consideration?

20. Culture, discipline, information; if one can exist without the others, which should receive greatest emphasis in the elementary school? Why?

21. Note the sense in which the term *discipline* is used. Distinguish clearly between discipline used in this sense and when conveying the idea of deportment.

22. Analyze the quotation from Dewey. (27) Suppose the school studies met fully the standard suggested, what of school pupils? Would we have any misfits?

23. List those subjects that to your mind make for discipline chiefly. Do the same for culture; for information. Is the informational subject of a given school year ever taught as a culture subject in another year? Explain.

24. Show how the statement in the last sentence, page 27, is true. Draw illustrations from history and literature.

25. Consider the man or woman who has appealed to you as being the most cultured of your acquaintances. In what does this culture consist?

26. Is your best informed man lacking many times in this kind of culture?

27. What is the type of the best disciplined mind?

28. Did your school training aim chiefly at subject-matter or method? Is more attention given to method in the kindergarten or in the high school? To subject-matter? Suppose the order to be reversed.

29. What do you understand by *expression* as used in the first sentence, page 30?

30. What is the relation between self-control and will?

31. Was willingness, or ability, or necessity, or desire, the chief element in the reaching out of these master minds toward a broad understanding and a full expression? Was this mind attitude gained or trained in school?

32. Sum up this chapter in a few lines and emphasize those elements that appear to you as being most helpful.

Chapter II—The Elementary Curriculum—Its Motive and Content.

1. To what do you attribute the recent serious unrest in educational matters?

2. Conceding that the elementary is the most important phase of education, account for the fact that in the past greatest attention has been given to the development of the high school.

3. Note that many of the advocates of a broader elementary education today are those engaged in higher education. What is the significance of this?

4. What are the dangers incident to discriminating sharply between education as *old* and *new?*

5. Suggest the types of educational institutions that today seem to best measure up theory with practice—that best meet the demands imposed upon them.

6. Improvement in the elementary school has come from above, are the universities to be criticised for the policy sometimes assumed by them of dictating to the lower school? Discuss this whole matter with high school and college people.

7. Consider the problem of early vocational training. Will such a school for elementary pupils, or will an entire revision of the curriculum look toward furnishing "that which is demanded in actual life"?

8. Under our modern conditions is it not inevitable that work formerly carried by the upper school must now be done by the lower?

Take up this question again after a careful analysis of pages 44-54.

9. Were the text books and methods employed in the time of your fathers better suited to their day and generation than are the schools and methods of today to our present needs?

10. Test those of the older generation as to their memory of geographical and historical facts, rules of grammar and arithmetic, and ability in *mental arithmetic*. Draw conclusions.

11. What is the relation between knowledge of a rule in grammar and ability to use correct English?

12. If the mind were "cut up" into divisions, each function in its own way, would the problem of education be simpler or more difficult than it now is?

13. What do you think of the argument that the best education was had in the old days when there was little division of labor, each individual being required to perform all the processes of a given line of work?

14. Is there danger of over-emphasis of our industrial life problems?

15. What do you understand by the term *fad* in education?

16. Make a list, without consultation with others, of three of the best teachers you know, enumerating the desirable qualities they possess. Preserve this list and revise after you have completed the book.

17. How would the average business man regard the suggestions made on page 61? Take this matter up with a merchant a banker, a lawyer, a farmer, and a mechanic of your acquaintance.

SECOND DAY.

Chapter III—Industrial Training: Its Aim and Scope.

1. As a rule, which class looks upon manual labor as degrading—the laboring class or the leisure class?

2. Is the social break between the wealthy and the poor more or less distinct than formerly?

3. Do not the same conditions exist as regards the relative positions of sons of rich and poor in school subjects generally, as are suggested for industrial work on page 73?

4. Study the pupils in your own school and ascertain whether social distinctions are drawn on the basis of financial position.

5. Will not his out-of-school experiences provide fully the necessary bodily activity?

6. Account for the fact that you are constantly troubled by boys who "won't keep still". Ask for a visiting day and spend it in a well regulated kindergarten, studying the methods.

7. Show how the traditional book subjects can be made to meet the demands for activity.

8. Just what is understood by *industrial* life?

9. Why should the school interest itself in that which pertains to industry, manufacture and commerce? Should girls be given any consideration in an industrial scheme? Indicate the relation between industrial insight and *education.*

10. In your own work for how long a period do you expect your class to concentrate upon a lesson they have in preparation? What results do you secure if a recitation period be greatly prolonged? Under what conditions do you accomplish the best results in your own work?

11. When manual work is not given in school, how may the necessary change be brought about?

12. What proportion of time could profitably be devoted in each grade to industrial work? What forms should it assume?

13. Note in your kindergarten visit whether the manual processes tax the larger muscles or those of the fingers mainly. Are the eyes severely taxed? Note the work as given in the first and second years. Is it chiefly "seat work"? Does it depend on delicacy of finger muscles or eyesight? Discuss these points.

14. If a pupil is much interested in his shop project would he likely be satisfied with less good results than when dealing with history or geography?

15. Make a list of the various tests you apply to ascertain whether a student has a "grasp" of the subject.

16. How would it do to have pupils construct needed apparatus and make repairs in and around the school building? Study the conditions surrounding your own room or building to ascertain what could be accomplished in this direction.

17. What trades are carried on in your neighborhood? When the boys and girls leave your school in what lines of employment do they engage?

18. Suggest certain lines of industrial work to be carried on in school, a knowledge of which will be of value in the home.

19. What do you understand by objective teaching? What is busy work? How may industrial work be used as *objective* in the book work? Should manual training be a subject in itself or be taught in conjunction with book subjects? Consider this matter again at a later day.

20. In studying technical grammar before an appreciation of the English language is gained, is the principle of the exercise or of the model system being used? Which should precede, the rule, or the study of that upon which the rule is based?

21. In "making things" at home did you begin with the exercise (stitch or joint) or did you at once *make* something?

22. How much emphasis do you place upon sequence and technique in your work?

23. Account for the fact that progress in industrial processes has been brought about largely through those who are not teachers of the subject—by educators and business men.

24. Discuss the educational value of exhibits.

25. In shaping your course of study, what part has locality and utility played?

26. At how early an age should girls be given a type of work differing from that given to boys?

27. Does technique or accuracy upon the one hand, or thought and reason upon the other, appeal most strongly to the child? Consider age here. Is there conflict between technique and thought?

28. What is the greatest barrier to the development of individuality in school?

29. Do you think most teachers too conservative or too radical?

Chapter IV—The Meaning of Correlation.

1. What do you understand by the "social basis" of correlation?

2. Suggest the various groups of studies that might be formed under *the group idea.* What principle governs the selection of studies forming any group?

3. Make a list of all formal and another list of all humanistic studies. What are the determining elements here?

4. If the child is the natural center for correlation, would all children be equally well fitted to receive instruction based on correlation?

5. Reconcile the fact that, more and more, subjects are being subdivided and specialization developed, with the second statement from Parker, page 106.

6. What attention should the school give to concentration as discussed?

7. Compare the statement by Dr. White (107) with those in the preface (6 and 7).

8. What is the distinction between the unification idea (108) and the group idea? (104) Why may not all studies be included in one?

9. As each individual has his own particular preferences, how would it do to place as centers of correlations, those subjects that appeal in each case?

10. How does the idea of correlation in co-ordinate groups (110) comport with *the child as center* idea?

11. Would complete unification mean a simpler or more complex school schedule than we now have?

12. What do you understand by *relative values* of studies? What elements go to determine these values? List the school studies on a relative value basis, and preserve the list to be studied later.

13. What do you understand by *content* and *form?*

14. As individuality develops, will the interests and ends as discussed by Dewey not increase? Then will not subjects be multiplied?

15. Would not complete unification mean casting all students in the same mould? What of class vs. individual instructions?

16. What has been your experience in correlative teaching? Have you taught to correlate, or has correlation developed logically?

17. What is the strongest argument offered for correlation on pg. 114-115?

THIRD DAY.

Chapter V—The Basis of Ethical Training.

1. Does a deepening of the moral sense accompany industrial growth and commercial expansion?

2. What light would the discussion in the previous chapter throw upon the value attaching to moral or religious training as such?

3. May the same plan be pursued in schools receiving State aid, as in instiutions of a private, parochial or sectarian nature?

4. Compare again the substance of the last paragraph (121) with the ideas set forth in the preceding chapter.

5. Examine a reading or spelling book of fifty years ago and note the *moral* at the close of each reading lesson.

6. What peculiarities of the earlier day and manners and customs of the time gave rise to the idea that moral life and actual living were divorced?

7. If the school of the past was richer in discipline than that of the present day, was the moral feeling greater then also?

8. Should the child's early interests be directed, or his native interests considered? Can artificial phases of life be made "actual" to the child? How about myths and fairy stories?

9. *Are short cuts* and *quick methods* educational?

10. Consider as to whether it is the duty of the teacher to make interesting, the uninteresting phases of school work.

11. What is the relation of interest of pupils to simplicity of lessons?

12. The features of child study with which every grade teacher should be familiar are summed up on page 129. Analyse them.

13. Suggest other terms to cover the two forms of attention —voluntary and involuntary.

14. Contrast the statement on the difficulty of securing attention (130) with the substance of the final paragraph on page 75.

15. What of the argument that the play spirit gained in the kindergarten incapacitates the pupil for serious work?

16. If each child demands individual attention, why consider so seriously the course of study?

17. What was lacking in Mr. Carling's early training?

18. Select from your class those who habitually give too much attention to detail; those whose attention it is difficult to secure. How may each group be treated?

19. Secure the opinions of your associate teachers as to the value of discipline. Make a list of the various ways of developing the habit of discipline. Retain the list for later consideration.

20. Having in mind what is said (133 and 134) determine as to your least attentive pupils; your most attentive.

21. On page 135 there is a suggestion of something of more value to the teacher than knowledge of subject-matter. Consider this.

22. Do your pupils endeavor to answer in recitation as you "want them to answer"? Do they say, "I don't know what you want"? What is wrong?

23. Is the illustration given extreme? (137)

24. If a text-book on moral instruction is to be used it would best be studied by the teachers themselves. Discuss this statement fully. Are teachers *living examples* to their pupils?

25. How many of your associates use the Bible in school? Is their purpose to inculcate moral principles or doctrinal teachings? Determine the age at which the average pupil prefers readings from the Bible to those from other books.

26. Do you see any danger of over-educating the emotional or sentimental life of the child?

Chapter VI—The Significance of Habit.

1. What are the undesirable habits most common to members of your class; the desirable habits?

2. If the child must "learn by experience", how shall he be guarded from acquiring a store of bad habits in his early years?

3. If to *stop* or *break* a habit at once implies will power, how can we expect the child to accomplish this? Suggest a method as effectual and that will more likely meet the child's capacities.

4. What part should interest play in this matter?

5. Will talking about the habit to the pupil have any more effect than talking *about* morality?

6. Have you discarded any injurious habit that you formerly possessed? How did you accomplish this? Do you acquire a new habit today with greater ease or with more difficulty than formerly? What educational principle do you derive from this?

7. If a pupil has several bad habits, is it best to try the lopping-off process of all at once, or one at a time?

8. Discuss the part that biography should play in training in right habit-forming, action and precept on the teacher's part.

FOURTH DAY.

Chapter VII—The Curriculum in Operation.

1. Is the illustration that of a typical case? Under normal condition would there be many such cases as cited?

2. Would program-making be easy or difficult if the formal discipline doctrine prevailed?

3. Picture a community where the schools allowed each child a *taste* of every possible subject.

4. Suggest a method for determining the essentials. Are these always the same in a given locality? Do they differ in different sections?

5. Define *practical* as applied to education.

6. As you study the seven-fold classification, what part think you has correlation played in the arrangement?

7. Is the list arranged in the order of importance of subjects?

8. Compare the substance of paragraph two (165) with what is said of physical development. (76-77)

9. Does the teaching of physical training as a "well-defined subject" in "concrete problem" preclude the correlation idea?

10. Study your schoolroom with a view to ascertaining how the conditions suggested are met.

11. If the teacher has had no experience in this work, or has no knowledge of the principles involved, could she pursue a correspondence course to advantage?

12. Make an investigation to ascertain the results secured in schools where every pupil is given a physical examination.

13. What advantages has the country schoolboy in the matter of sports and athletics?

14. Criticise these statistics and show wherein they may be defective or misleading.

15. Discuss the moral benefits to be derived from competitive athletics not professionalized.

16. Study the conditions of your schoolroom again and note how they conform to the suggestions.

17. Read any available references on the out-of-door gymnasium.

18. Try some simple pottery forms in your class, and note if these are not preferred to the ordinary modeled natural forms. How may the woodwork at the bench be of assistance in this department?

19. How many varieties of nature-weaving materials may be had in your locality? Have collections made by the pupils.

20. Purchase a manual on paper and cardboard, and make the series of objects suggested. Then present to your class, always emphasizing the design and artistic sides.

21. Make a collection of photographs and cuts of pieces of metal work, to aid the pupils in an appreciation of the beautiful and useful.

22. How may a beginning in woodwork be made in schools where there is no equipment?

Chapter VIII—Study and Preparation.

1. What are the conditions in your own school or grade as to home study? To what extent is your work planned on the basis of home preparation for the pupils?

2. Is it possible for the teacher to meet and counteract the conditions indicated without endangering her position or being disloyal to her superiors?

3. What do the pupils think regarding home work? Is it because they are working too hard or too many hours that much out-of-school preparation is to be deplored?

4. Given their choice, would pupils prefer to study in school or out of school? Test this. *Do* they study at home?

5. Question the pupils on the difficulties they encounter in studying at home. What were your own experiences as a child?

6. Why may not better results be had through home study, with shorter hours at school, than with no home work and forty pupils per class as indicated?

7. Consider fully the question of individual instruction. Just what do you understand by individual teaching?

8. What are the economic advantages of working with individuals?

9. In public or State schools, what are chief barriers to such teaching?

10. Talk with the parents to ascertain their views on the subject of study at home. What opinions do they give on value of the work proposed?

11. Is the parent generally concerned that the boy at home do a particular thing, or *keep busy?*

12. Has the ability of the teacher been overestimated? Do your associates meet the demands imposed? Do you?

13. Do you ever refuse to accept the *answer* or *statement* submitted from the home because the method is not that of the school? Why?

14. Substitute a "study-recitation" for a regular recitation period and watch your class work. Question them on their manner of going about the lesson. Discuss this whole question with a group of teachers. How do they proceed to study ?

FIFTH DAY.

Chapter IX—The Recitation Process.

1. How does the statement regarding method and subject-matter compare with a previous discussion?

2. Turn to p. 88 for comparison on question of local conditions vs. course of study. Do you find mention of this matter elsewhere? Consider the extent to which environment has influenced the arrangement of your course of study.

3. What condition here suggested implies individual instruction?

4. In what particular lesson or subject do you adhere most closely to your text? Why is this? Has this always been the case? What relation does your knowledge of the subject, your preparation of the lesson, or your liking for the particular work bear to this question? Use your book less in class and note results.

5. Would former teachers, now engaged in some other profession or business, make the most effective "board members"?

6. Do you agree with the substance of paragraph one, page 202? Refer to question 2, chapter VIII.

7. Would a proper arrangement of material in a text book guarantee the necessary emotional sequence? State the conditions that arise here.

8. Refer to question 4 above in considering the use to be made of the text.

9. In preparing lessons from various sources to meet your local conditions, do you revise these or use them constantly?

10. Note the chief barrier confronting you in attempting to prepare each lesson carefully. Ask your associates to do the same. Take up with them as a subject of serious discussion how each individual teacher has succeeded in overcoming one or another of these barriers. Follow up this plan of comparing notes.

11. Change your methods of assignment and note results. What is the relation of a rational assignment to the teacher's preparation?

12. Call upon class members for an assignment. What do you learn from this?

13. Consider paragraph one, page 207. Turn to page 138 and compare.

14. How do you *develop* in yourself an ability for study? In your pupils? Recall qestion 14, chapter VIII.

15. What suggestions here looking toward the development of individuality and clear thought of pupils? Pupils should work out their own salvation. Analyze this statement.

16. Note the idea offered by Professor Wendell. (209) Is this in accord with your findings in the chapter on interest?

17. The teacher should impart to a class information not found in the text. Bring out the various implications of this statement.

18. Does the *study-recitation* imply less or more of the teacher's time?

19. When your pupils appear "dull" or tired, ask a few quick, direct questions and note results.

20. Study yourself to ascertain if you repeat the answers given, have a stereotyped manner of asking questions or a regular form of reply.

21. Allow a student so inclined to lead away from the lesson, and then bring him to see that the class and yourself thoroughly understand him. Would you always use this method?

22. When in doubt yourself, have you ever requested the class to "look that up for tomorrow?" Consider this.

23. Consider the advantages and disadvantages of allowing the class to take sides in the consideration of a question. *Argument* is dangerous.

24. Study the pupils to ascertain those most needing praise. Are children naturally jealous, or generous of one another?

25. Are examinations and tests more or less in vogue now than formerly?

Chapter X—Training, Professional Growth and Recompense of the Teacher.

1. Of the successful teachers whom you know, how many are normal graduates?

2. What was your experience in your study of psychology?

3. Of the successful business and professional men of your acquaintance, how many had no preliminary training?

4. Make a list of the books on education and teaching you have read. Compare this list with those in the text under the head "Consult".

5. Study the man who is really *successful* in teaching or in business. How are his associates "picked"?

6. What are the chief obstacles in the way of a teacher assuming a wide range of interests? Do elementary or high school teachers have most opportunity here?

7. The three matters of greatest import before teachers today are: (a) Moral Instruction; (b) The Physical Needs; (c) Industrial Education. Refresh your mind with your previous considerations of these topics.

8. Note how readily the improvement of buildings and grounds, and the decoration of the room, add to the aesthetic feeling and make for culture.

9. Endeavor to determine the lines of your greatest benefit from work suggested.

10. Add to the list of qualities enumerated such others as you believe teachers should possess.

11. In what degree do the teachers of your acquaintance possess the above? Do these qualities seem to accompany one another in the make-up of individuals, or do you find that where one is developed the others are less prominent?

12. Note the points in the book, and those that have grown out of the discussions, that are most helpful to you in your work.

13. Note your problems and perplexities for which you find in the book no suggestion for solution.

14. After careful consideration make a statement of the subject you most desire to have treated.

15. Write the author briefly and to the point on 12, 13 and 14.

ARITHMETIC

(By Sidney Pickens, Batesville.)

In this work, it is suggested that attention be given to methods of teaching rather than to the subject-matter of arithmetic. It is also suggested, however, that written work be required of the teachers each day.

FIRST DAY.

(1) Primary Work—

Teaching numbers; counting; use of objects; writing numbers; neatness.

Emphasize accuracy, neatness, and rapidity, in the order named, in all work in arithmetic.

(2) Fundamental Operations.

1. Addition—Show how to teach it; how to develop rapidity.
2. Subtraction—Explain "borrowing and paying back".
3. Multiplication—A short process of addition.
4. Division—A short process of subtraction.

(3) Necessity of Drill.

Many pupils have trouble with arithmetic simply from a lack of drill in the fundamental operations. Give many examples involving each process; involving combinations of all four processes.

(4) Teach to read problems intelligently; to decide what is given; what required; process of solution. Allow no aimless "figuring". Require oral and written analyses.

SECOND DAY.

(1) Factoring.

H. C. F.; L. C. M. Show why necessary to teach; how to teach.

Find the H. C. F. of 231 and 660. Find the L. C. M. of 66, 72 and 111.

(2) Fractions.

1. Common—Kinds; terms; relation to division.

   (a) Addition, subtraction, multiplication, division.

   (b) Use of ½'s, ⅓'s, ¼'s, ⅛'s, etc.; practical problems. Analysis.

2. Decimals—Method of teaching; "pointing off"; practical problems.

If fractions are thoroughly taught, no trouble will be had with percentage and its applications.

THIRD DAY.

(1) Ratio and Proportion.

Relation of ratio to division and fractions. Nature of a proportion; terms; find any term, if three be given.
Solve:

> If a block of marble weighs 6930 lbs., and is 7 feet long, 3 feet wide, and 2 feet thick, what will a block 10 feet long, 4 feet wide, and 3 feet thick weigh?
> Compare with analysis.

(2) Denominate Numbers.

Teach tables objectively when possible. Reduction, addition, subtraction, multiplication, division. Same principles as in dealing with ordinary numbers.

FOURTH DAY.

(1) Percentage. Terms. Any two given, to find third. Relation of percentage to fractions.

(2) Applications. Practical examples in profit and loss, commission and brokerage, trade discount, insurance, taxes. Require carefully written solutions.

(3) Interest. Time. Give practical work in simple, annual, and compound interest, and partial payments.

(4) Discount—Bank and True.

Find 45% of $840. If 20% of my money is lost and I have $75 left, how much had I at first? If an orchard had 340 trees in it and 17 of them died, what *per cent* was left? If it cost $40 to produce a bale of cotton that sells for $52.50, what is the rate of profit?

What is the difference between the simple, annual, and compound interest of $300 for 3 years 9 months at 8%?

Write a promissory note due 90 days from date and drawing interest at 8%. Discount it the day it is dated at 10%. Proceeds? Write a promissory note, make three indorsements. Find amount due.

FIFTH DAY.

(1) Practical Measurements.

Areas and dimensions of:

1. Rectangles, parallelograms.
2. Triangles, trapezoids.
3. Circles.

(2) Plastering, painting, carpeting, papering. Measuring wood, lumber. Capacity of bins, cisterns, etc.

How many feet of lumber in a piece of timber 18 feet long, 1 foot 3 inches wide, and 5 inches thick?

How many gallons will a cistern 20 feet deep and 8 feet in diameter hold?

Find the cost of a carpet 27 inches wide, at $1.60 per lineal yard, for a room 15 feet long and 13½ feet wide, if the strips run lengthwise. Find the cost, if the strips run across the room.

The special attention of the Teachers of Arkansas is directed to the following Outline and Manual for Elementary Agriculture. The University of Arkansas and Professor Wilson have rendered a signal service in placing this Outline in the hands of the Teachers. A careful study of the same and its frequent use for reference and guidance will aid greatly in making the teaching of Elementary Agriculture, as required by the statutes of Arkansas, of practical use to the students and an inspiration for more practical work in the other studies.

Sincerely,
GEO. B. COOK,
State Superintendent of Public Instruction.

AGRICULTURE

LABORATORY MANUAL FOR ELEMENTARY AGRICULTURE.

(Arranged by J. M. Wilson.)

Professor Agricultural Extension, University of Arkansas.

PURPOSE OF THESE EXERCISES.

There is a growing demand in the State for some kind of outline or manual for the use of the teachers who are engaged in giving instruction in agriculture in the public schools of the State. To meet this demand this brief manual has been prepared.

These exercises are to be used in connection with some standard text book. They should be prepared in advance on each lesson, and the exercises used should be based on the day's lesson.

The exercises have been selected from different authors and Government experts on agricultural education, and are made as simple as possible.

Knowing that most of the schools will be without laboratory facilities, we have used exercises that will require nothing but the simplest apparatus. Most of them can be performed with little or no expense.

In high schools where chemistry or physics laboratories are maintained, much apparatus used in these sciences can be used in experiments in agriculture, and many more complicated experiments can be performed.

It is our purpose at some later date, if there is a demand for it, to prepare a complete manual, including many other experiments based upon principles brought out in the study of agriculture.

SOILS.

Material needed, one bushel each of sand, clay, leaf mold, garden loam and gravel.

Experiment 1.—Light and Heavy Soils. Clay is called a heavy soil and sand a light soil. Does this refer to the weight of the soils? Weigh a quart of dry, finely pulverized packed clay and a quart of dry, packed sand. Which is heavier? Light and heavy as applied to soils are terms which refer to the ease or difficulty with which they can be plowed or cultivated.

Experiment No. 2.—Porosity. The capacity of soils to take in rainfall. Break the bottom off five long-necked bottles, tie a small piece of cheese cloth or thin muslin over the mouth of each and arrange them in a rack with a glass tumbler under each. Fill the bottles to about the same height with different kinds of soil, gravel in one, sand in another, etc., and firm the soils by lifting the rack and jarring it down moderately three or four times. Now, with watch or clock in hand, and with a glass of water held as near as possible to the soil, pour into one of the bottles just rapidly enough to keep the surface of the soil covered and note how long before it begins dropping into the tumbler below. Make a record of the time. Do likewise with each of the other bottles and compare results. Which soil takes in water most rapidly? Which is the most porous? Repeat the experiment with one of the soils, packing the soil tightly in one of the bottles and leaving it loose in the other. What is the effect of packing? Does this have any bearing on farm practice? Which soil has the greatest capacity to hold moisture or water? This can be determined from the above experiment by emptying and replacing each tumbler as soon as all free water has disappeared from the upper surface of the soil above it. After water has

ceased dripping from all the bottles, measure and compare the water in each tumbler. Which soil continued dripping longest? Which would drain most rapidly?

Which soil would store up the greatest amount of moisture? This can be determined from the same experiment by weighing each bottle before and after filling it with dry soil, and again after the water has entirely ceased dripping from it. The difference between weight of the dry soil and that of the wet soil is the weight of the water stored. During the time that the bottles are dripping, which may take several days, they should be covered to prevent evaporation from the surface of the soils. Make other applications in a practical way of the principles brought out in this exercise.

Experiment No. 3—Capillarty. The power of soils to take up moisture from below.

Arrange four or five student lamp chimneys in a rack with small ends down. Underneath the chimneys place a small pan capable of holding about one and one-half inches of water. Over the small ends of the chimneys tie cheese cloth or thin muslin. Fill each with a different kind of dry soil. Pour water into the pan beneath until it stands about one-half inch above the lower ends of the chimneys, then observe the rise of water in the different soils. Make notes on the height to which the water rises and on the time it takes. In which soil does the water rise most rapidly; in which to the greatest height? Which soil draws up the greatest amount of water? How can this be determined? Which soil would dry out the soonest? Which would be able to bring moisture from the greatest depth? The power of soils to raise water from below is called capillarity. It is an important function, for by it plants are able to get moisture and plant food from the subsoil in times of drouth. If chimneys are not to be had, this experiment can be performed by the use of long-necked bottles. If more accurate tests in capillarity are desired it will be necessary to procure a series of glass tubes at least 3 feet long, for in some cases water will rise to that height or even higher.

Experiment No. 4—Puddling. Some soils if cultivated immediately after a heavy rain will puddle; that is, pack so closely that when they dry out they bake into a hard, almost impenetrable condition.

Fill four tomato cans half full, one with sand, another with clay, another with loam, and another with peat. Add water and stir until the soils are about the consistency of paste. Set them aside for ten or fifteen minutes. Pour off all the free water and stir again. Set them in the sunlight and allow them to dry thoroughly or better set them over a slow fire for several hours. Which soils bake? Which could be more easily stirred? Cultivated after drying? In farm practice, which could be worked soonest after a rain without danger of puddling? Which could be worked earliest in spring?

Experiment No. 5—Free Moisture in Soils. Take four slender baking powder cans of the same size, with tops and bottoms removed, and tie over one end of each a piece of cloth such as thin muslin or cheese cloth. Fill one can to within an inch of the top with coarse dry sand, another with dry loam, the third with dry pulverized clay and the fourth with dry muck or leaf mold mixed with sand. Weigh the soils before putting them into the cans, in order to have a record of the weights for use in the next experiment. If any of the soils contain pebbles or clods, these should be removed by sifting. Set the cans where they can drain readily into separate vessels; then pour water slowly into each can until it begins to drop from the bottom, using care not to have any water stand on the surface of the soils when dripping begins. Allow the cans to stand until all drip has ceased. Measure or weigh the drainage from each one. This is free water, the water which would be removed from the soils by thorough drainage. From which soil was the greatest amount of drainage collected? Does the amount of drainage water appear to have any relation to the fineness of soil? Which soil drained the most rapidly? Do soils underlain with sand need underdraining as a rule?

Experiment No. 6—Hygroscopic Moisture in Soils. The presence of hygroscopic or film moisture in soils may be demonstrated by spreading out and air-drying thoroughly one of the soil samples used in the preceding exercises; then putting a small portion of it into a test tube and heating it to a high temperature. If any moisture condenses on the inside of the tube it is hygroscopic or film moisture from the soil. Or weigh 10 grams of air-dry soil, put it in an iron spoon, heat it red hot, and again weigh it. From the weights before and after heating determine the film moisture.

Experiment No. 7—The Influence of Tillage and Mulches on the Retention of Moisture in Soils. Fill four lamp chimneys, prepared as before, in the rack or four 12-inch lengths of 4-inch down spouting or conductor pipe prepared in a similar manner, with fine garden loam to within 2 inches of the top. Immerse these tubes for a few seconds in water. Cover the surface of the soil in one tube with 1½ inches of the same kind of soil and pack it down. Cover another with 1½ inches of the same kind of soil, and keep it loose by stirring from time to time. Cover another with the same amount of soil in the form of road dust, and another with 1½ inches of chaff or finely cut straw. Suspend the tubes where drainage will be free and where all will be subject to the same conditions as to sunlight and currents of air. Weigh them morning and evening for three or four days. Which tube lost moisture most rapidly? Which most slowly? What is the conclusion as to the influence of cultivation or mulches upon the retention of moisture in the soil? Is the destruction of weeds the only object sought in cultivating crops?

Experiment No. 8—The Influence of Tillage and Mulches. This can also be shown by the use of loaf and powdered sugar. Take a cube of loaf sugar insert in a saucer of ink or coffee (or any colored fluid will do), see how rapidly the fluid rises. Take another cube and put a layer of powdered sugar on top and insert it in the same way. Does the fluid go through the powdered sugar? How long does it take for the first cube to be fully saturated? The second cube with the powdered sugar on top?

Experiment No. 9—To Show the Effect of Plowing Down Manures and Clods. Fill three chimneys or tin cylinders as in experiment 7 three-fourths full of fine dry soil. On top of this soil in one chimney, pack one inch of well-rotted straw or manure, on another one inch of finely cut, dry straw, and on the other one inch of hard clay broken into pieces about the size of large peas. Fill the chimneys with more fine dry soil, and set them in a pan containing half an inch or so of water. Keep water in the pan all the time. Note the rise of water in chimneys. Does it pass through the dry straw or clods as quickly as it does through the rotted material? The straw and rotted manure represent material plowed under and lying in the bottom of the furrow, and the clods represent a hard-baked surface plowed under. The soil on top represents the furrow slice. Apply this experi-

ment to farm practice. In which do you think a crop would suffer least from dry weather? When should strawy manure be plowed under, spring or autumn? When hard-baked clay? Why?

Experiment No. 10—Influence of Drainage Upon Plant Growth. The influence of drainage upon plant growth can be shown by planting corn, beans, or almost any seed in the same kind of soil in two tomato cans, one with holes punched in the bottom and the other without. Apply the same amount of water to each can from day to day, and observe the condition of the plants for two or three weeks. As soon as any marked difference in favor of the drained soil is manifested in the condition of the growing plants, seal the holes in the bottom of the drained can with paraffin or wax, and punch holes in the bottom of the other can. Continue to appply water as before and note any change that occurs. Flower pots may be used.

Experiment No. 11—To Show That Soil is Carried by Water. Weigh a glass fruit jar and collect in it the clouded or muddy water after a rain from a gully or stream. Allow it to settle until clear. Weigh again; then carefully pour off the water and calculate the per cent of sediment.

Experiment No. 12—To Show the Assorting Power of Water. The assorting power of water may be illustrated by: (a) placing a mixture of rock, gravel sand, clay and garden loam in large jar and nearly fill with water. (b) Now thoroughly stir the mixture and allow to settle. (c) Observe the arrangements of the sediments. Where are the largest particles found? Smallest? Let the student calculate the area of the exposed surface of a cubic foot of rock before and after being broken up into cubic inches. Which soil will have the power of absorbing water, the large or small particles?

Experiment No. 13—Capillarity. (a) Procure a set of capillary tubes, four or five tubes, varying in diameter from a hair tube to one-fourth inch in diameter. (b) Half fill a beaker, or tumbler, with water colored with red ink. (c) In a piece of pastboard punch several holes corresponding in size and number to the tubes used; thrust the tubes through the holes to three-fourths the distance, below, of the height of the beaker. Now, cover the beaker with this pasteboard, allowing the tubes to ex-

tend down into the colored liquid. (d) Note the height to which the liquid rises in each tube. In which the highest?

Experiment No. 14—Drainage. (a) Take two 8-inch flower pots or cans, holes in one. Label them 1 and 2, respectively. In No. 1, pour a sufficient amount of melted parafin in the bottom to plug up the hole, so that no air may pass in, and no water pass out through the bottom of the pot. In the bottom of No. 2, place a layer about an inch in depth of stones or pieces of broken pottery. (b) Nearly fill each pot or can with a mixture of three-fourths good soil, thoroughly pulverized, and one-fourth sand. (c) Place in each pot a young, healthy plant of the same size and kind. (d) Now carefully sprinkle each with water until the soil is saturated. (e) After a day or two, put these pots in a sunny window. (f) Every two or three days note the temperature, and the condition of the soil and of the plants in each pot. In which pot does the water percolate through the soil the more rapidly? If each of these conditions of soil moisture was found in separate fields, which field would be more apt to be flooded in time of heavy rains? In which could air penetrate more readily? In which would the temperature be higher? (g) At regular intervals, say every two or three days, apply equal quantities of water to each of these pots or cans. (h) In about five or six weeks remove the soil, plant and all, and note the depth to which the roots have penetrated. In which have they gone the deeper, the drained or the undrained soil? If these conditions of soil moisture existed in the open field in early spring and were followed by a drought, how would these root systems compare in aiding the plant to withstand it? In nature, when these root systems die, how would they compare in affecting the porosity of the soil? How would such soils effect the nitrogen-fixing bacteria? How would the work of earth worms, grubs, and other burrowing animals compare in these two soils?

PLANT PRODUCTION.

Experiment No. 15—Development of Young Plants From Seeds. The development of young plants from seeds may be observed very nicely by plainting seeds against the sides in tall bottles or in a box with glass sides. Suppose, for example, that you put an inch of soil in the bottom of the box and then put a kernel of corn on top of the soil close to the glass at the one

end of the box and a bean at the other end of the box. Then put in another inch of soil, another kernel of corn, another bean and perhaps also a clover seed near the glass in the middle of the box. Continue in this way until the box is filled. Water the soil thoroughly, cover the glass sides of the box with black cloth or paper to exclude the light, and set it aside to allow the seeds to germinate. You will doubtless find that some very large seeds will germinate and send leaves to the surface from a depth of five or six inches in a light, sandy soil, but that this depth is not so favorable for their development as a depth of two or three inches. Try to find the best depth for planting a few large seeds and a few small seeds like radishes, clover, lettuce, etc. Planting seeds against the sides of the glass in this way will enable you and the pupils to examine them from time to time and see what becomes of those which do not reach the surface.

Experiment No. 16—To Show That Young Plants Get Food From Seeds. Much of the food of very young plants comes from the seeds to which they are attached. To prove this, plant two beans in a tin can containing sandy soil; water and keep in a warm place with plenty of light. Soon after the beans push above ground, take a sharp pointed knife and carefully cut off the two half beans or cotyledons without injuring the rest of the plant. Allow the plants to grow for a week or two and note the more rapid development of the plant to which the cotyledons are attached Have the students try similar experiments at home with squash seeds or Lima beans.

Experiment No. 17—To Show That Plants Absorb Moisture From Soil. Take two one quart cans as near alike as you can get them and punch holes in the bottom for drainage. Secure enough garden soil to fill both cans, mix it thoroughly, and sift it to remove pebbles and clods. Fill both cans level full of loose soil, which should then be packed by jarring each can three times on the table or floor. It is important to have the soils packed alike in both cans. Weigh the filled cans, and if one is heavier than the other, take out enough soil to bring them both to the same weight. Plant five or six kernels of corn in one can, water both cans alike, and set them aside to grow. Whenever water is applied to the cans containing corn, an equal amount should be applied to the other can in order to keep both soils in about the same physical shape. When the corn is three or four inches

high, wet both soils thoroughly, allow the cans to stand until the water ceases to drip from the bottom, weigh them, and record their weights separately. Set both cans in a warm, light place where the corn will continue to grow rapidly. Weigh the cans twice in the following day, morning and afternoon, and record the weights. Keep this up for three or four days, or until the corn begins to suffer from lack of moisture. Water again and continue as before. You will probably find that the can containing the growing plants loses moisture much more rapidly than the other. Why? Compute the difference. As the corn increases in size, does it use more or less water? How is the corn affected when the soil becomes too dry? What does it mean when corn in the fields "rolls" or "curls?"

Experiment No. 18—How Roots Absorb Moisture—Materials. Procure a wide-mouthed bottle, an egg, a glass tube, three or four inches long and about a quarter of an inch in diameter, a candle, and a piece of wire about five inches long. Remove a part of the shell from the large end of the egg without breaking the skin beneath. This is easily done by gently tapping the shell until it is full of small cracks and then picking off the small pieces. In this way take the shell a space about one-half inch in diameter. Remove the shell from the small end over a space as large as the diameter of the glass tube. Next cut from the lower end of the candle a piece about one-half inch long; bore a hole in this just the size of the glass tube. Now soften one end of this piece of candle and then stick it onto the small end of the egg so that the hole in the candle comes over the hole in the shell. Heat the wire and with it solder the piece of candle more firmly to the egg, making a water-tight joint. Place the glass tube in the hole in the candle and run the wire through the tube and break the skin of the egg just under the end of the tube. Then fill the bottle with water until it overflows, and set the egg on the bottle. In an hour or so the white of the egg will be seen rising in the glass tube, because the water is making its way by osmosis into the egg through the skin, which has no opening so far as can be determined with the most powerful microscopes. In this way, water ladened with plant food enters the slender root hairs of plants. This process of osmosis may also be shown as follows: Remove the shell from the large end of an egg without breaking the skin, break a hole in the small

end of the egg and empty the shell, rinse it out with water, fill the bottle with colored water, fill the egg partly full of clear water, and set it on the bottle of colored water. Colored water will gradually pass up into the egg and color the water that is there.

Experiment No. 19—To Show That Plants Give Off Moisture. Take a plant that is well started in a tomato can or flower pot, a piece of cardboard, and a glass tumbler or jar large enough to cover the plant. Cut a slit in the card board and draw it around the plant. Seal the slit with pitch, wax or tallow so that no moisture can come up through it from below; cover the plant with the glass and set it in a warm, sunny place. Moisture will condense on the inner surface of the glass. Where does it come from? Is all the moisture absorbed by the roots given off in this way. How can you find out? Why do plants need water?

Experiment No. 20—Circulation of Water in Plants. To show that water and whatever substance it holds in solution circulate to all parts of the plant, fill a tumbler about one-third full of lukewarm water colored with a few drops of red ink or some other brilliant coloring matter, and place in the colored water the freshly cut stems of white carnations, white roses or other white flowers or the twigs of trees with young leaves on, or almost any soft green plant. Be sure that they are fresh. In a short time the colored water will rise through the stems of twig and may be seen distributed in vein-like patterns, through the leaves or through the petals of the flowers. Hold the leaves up to the light and the coloring matter can be seen clearly. In this manner the stem of the plant carries food in solution, which has been absorbed by the roots.

Experiment No. 21—Propagation Bed. Prepare a box three to five inches deep, three or four feet wide and any length to fit window, or have each student make a box two feet long, one foot wide and three inches deep. This can be used for seed testing or cuttings. Fill about two-thirds full with clean sand.

Experiment No. 22—Seed Testing. Take any kind of seed, if small count about 100, if large like corn, use 10 grains. Plant in a row across box, water and keep in warm place. How many germinate? Do those that germinate look strong and healthy?

In testing individual ears of corn, number the ear and the row so as to know which ear will germinate.

Experiment No. 23—Propagation of Plants. Make ten cuttings, illustrating the different ways: Soft wood, hard wood and leaf. Get material and make several grafts both tongue and whip or cleft. Practice until you are able to make good grafts. Next put in a number of buds. If material is at hand, have class to propagate rose, blackberry and raspberry by layering. In the budding and grafting, the principles may be shown with most any kind of branch. Better made in spring or early fall.

(Instructor should illustrate here.)

Experiment No. 24.

SCORE CARD FOR CORN.

		1.	2.	3.	4.	5.	6.	7.	8.	9.	10
Perfect score	100	..	..	..	..	..	..	..	..	..	..
Trueness of type	10	..	..	..	..	..	..	..	..	..	..
Shape of ear	10	..	..	..	..	..	..	..	..	..	..
Purity in cob	5	..	..	..	..	..	..	..	..	..	..
Purity in grain	5	..	..	..	..	..	..	..	..	..	..
Vitality, or seed condition	10	..	..	..	..	..	..	..	..	..	..
Tips	5	..	..	..	..	..	..	..	..	..	..
Butts	5	..	..	..	..	..	..	..	..	..	..
Uniformity of grains	10	..	..	..	..	..	..	..	..	..	..
Shape of grains	5	..	..	..	..	..	..	..	..	..	..
Length of ear	10	..	..	..	..	..	..	..	..	..	..
Circumference of ear	5	..	..	..	..	..	..	..	..	..	..
Furrows between rows	5	..	..	..	..	..	..	..	..	..	..
Space between tip of grain at cob,	5	..	..	..	..	..	..	..	..	..	..
Proportion of grains to cob	10	..	..	..	..	..	..	..	..	..	..

Explanation of score card:

1. Trueness to type. The ten ears in the sample should possess similar or like characteristics, and should be true to the variety which they represent.

2. Shape of Ear. The shape of the ear should conform to the variety type. Ear should be full and strong in the central portion and not taper too rapidly toward the tip.

3. Purity. (a) In grain. Color of grain should be true to variety and free from mixture. For one or two mixed grains, a cut of one-fourth point; for more than four mixed grains, a cut of one-half point should be made. Difference in shape of color must be scored according to variety characteristics. (b) In cob. An ear with white cob in yellow maize or red cob in white maize should be disqualified or marked zero. This mixture reduces the value of the maize for seed purposes, indicates lack of purity, and tends toward a too wide variation in time of maturity, size and shape of grains.

4. Vitality or seed condition. Maize should be in good seed condition, being capable of producing strong, vigorous growth and yield.

5-6. Tips. The form of tip should be regular; grains near tip should be of regular shape and size. The proportion of tip covered or filled must be considered. Long-pointed tips as well as short flattened or double tips are objectionable. Butts: The rows of grains should extend in regular order over the butt, leaving a deep depression when the shank is removed. Open and swelled butts depressed and flat butts, with flattened glazed grains, are objectionable and must be cut according to the judgment of the scorer.

7. Grains. (a) Uniformity; (b) Shape of. The grains should be uniform in shape and size, making it possible to secure uniformity in dropping with the planter, and consequently a good stand. The grains should also be not only uniform on individual ear, but uniform in color and true to variety type. The grains should be so shaped that their edges touch from tip to crown.

8. Length of Ear. The length of ear varies according to variety and type; also, the characteristics sought for by individual breeders. Uniformity in length is to be sought for in sample, and a sample having an even length of ears should score higher than one that varies, even if it be within the limits. Instructor will set limits for length of ears of sample according to variety, allowing a variation of one inch. The sum of the excesses and deficiencies in inches shall constitute a cut in points.

9. Circumference of ear. The circumference of the ear will vary according to the variety and the latitude. The circumference of the ear should be in symmetry with its length. An ear too

great in circumference for its length is generally slow in maturity, and too frequently results in soft maize. Instructor will set limits for circumference of ears of sample according to variety, allowing a variation of one-half inch. The sum of the excesses and deficiencies in inches shall constitute a cut of points. Measure the circumference at one-third the distance from the butt to the tip of the ear.

10. Furrows between rows. The furrows between the rows of grains should be of sufficient size to permit the grain to dry out readily, but not so large as to lose in proportion of grain to cob. (b) Space between tips and grains at cob. This is objectionable, as it indicates immaturity, weak constitution and poor feeding value.

11. Proportion of grain to cob. The proportion of grain is determined by weight. Depth of grains, size of cob, all affect the proportion. In determining the proportion of grain to cob, weigh and shell every alternate ear in the exhibit. Weigh the grain and subtract from weight of ears, giving weight of grain; divide the weight of the grain by the total weight of ears, which will give the per cent of grain. Per cent of grain should be from 86 to 87. For each per cent short of standard, a cut of one and one-half points should be made.

Experiment No. 25—Depth to Plant Corn. Material, corn and box of soil, or a garden. Plant ten kernels of corn at each of the following depths; one, two, four and six inches. How many days does it take for the corn to come up in each case? Which plants are most vigorous? After it has grown three weeks, take it up and make drawings of the roots in each case. At what depth have the permanent roots appeared? Has the depth of planting influenced this?

LIVE STOCK AND DAIRYING.

Experiment No. 26. Make a drawing of different types of horses as found in bulletins, and text books.

Experiment No. 27. Same for cattle.

Experiment No. 28. Make drawing of beef animals showing different cuts. (Illustration may be found in any standard text book or farm bulletin No. 71.)

Experiment No. 29—Babcock Test—Materials. A hand-power centrifugal tester, at least two milk bottles, one pipette to measure the milk, and acid measure, about one pint of sulphuric acid with specific gravity between 1.82 and 1.83, a few ounces of milk, and some hot water. All the apparatus necessary can be purchased from any dairy supply company for about $4.50 to $5.00. Sampling the milk. In order to get a fair sample from one cow, take the milk at night, mix thoroughly and take one quart. Do the same thing with morning's milk. Mix the two quarts thoroughly and take about one pint of this mixture for sample. The milk should be neither very warm nor very cold. Place the small end of the pipette at the center of the milk and suck the milk up above the 17.6 cc. mark. Quickly put the finger over the upper end of the pipette, and by releasing the pressure allow the milk to run out until its upper surface is even with 17.6 cc. mark when the pipette is held straight up and down. Place the point of the pipette a short distance into the neck of the test bottle, holding it against the glass, and with both pipette and bottle at an angle. Remove the finger to allow the milk to flow into the bottle. Be sure to get every drop of the milk, taking care to drain the pipette and to blow the last drop into the bottle. A little practice should make any one proficient with the pipette. It is best always to make this test in duplicate; hence two bottles are needed for each lot of milk. Using the acid. The acid is very strong and must be handled with care. If any gets on the face, hands or clothing, it should be washed off quickly, and water should always be ready for this purpose. Do not leave the acid where young children can get it. After all the samples of milk to be tested have been measured, the acid should be added. Fill the acid measure to the 17.5 cc. mark with acid that is neither very hot nor cold. Pour this into the bottle with the milk, holding the bottle in a slanting position. The acid will then carry down the milk left in the neck and follow the glass surface to the bottom of the bottle and form a layer under the milk. Hold the bottles by the neck and give it a circular motion for a few minutes, mixing the milk and the acid until no milk or clear acid is visible. By this time the contents will be dark-colored and hot. This change is due to the acid dissolving all the solid constituents of the milk except the fat, which it does not affect. Whirling the bottles. The bottles are whirled to separate the fat so that it can be measured. They should be hot when whirled. If neces-

sary, they may be heated by standing in hot water before being put into the machine. A steam machine is easily kept hot when in use. Another means of keeping the bottles hot is to place very hot water in the test bottle containers in the machine. This water will then surround the bottle while they are being whirled. Place the bottles in the machine so that each one will have another directly opposite, to keep the machine in balance. Whirl the bottles five minutes at the proper speed for the machine in use. Then stop it, and with the pipette or other convenient means, add hot water to each bottle until the contents come up to the bottom of the neck. Whirl two minutes. Add hot water enough to bring the top of the fat nearly to the top of the graduations on the neck of the bottles. Whirl one minute. The fat should then form a clear column in the neck of the bottle. Reading the percentage.—Keep the fat warm so that it will be in a fluid condition. Hold the bottle by the upper end of the neck, letting it hang in a perpendicular position, on the level with the eye. Read the mark or graduations at the extreme top and bottom of the fat column. The difference between these is the percentage of fat in the milk. Most test bottles are made to read as high as 10 per cent. Each percentage has its number marked on the glass and there are five small spaces, each representing .2 per cent between these principle marks. Thus, if the top of the fat column is even with the third short mark above the 7 mark, the top reading would be 7.6; and if the bottom is half-way between the first and second short marks above the 3 mark, the bottom would be 3.3; the difference is 4.3, which is the percentage of fat or number of pounds of fat in 100 pounds of the milk tested.

Notes. One cc. means one cubic centimeter, or about 20 drops. If the fat column is clouded with dark spots or specks, probably the acid was too strong, or too much was used, or the heat was too great.

Always keep the acid bottle closed when not in use or the acid will lose strength. Remember that it is a poison and corrosive. Points to be especially noted in making the Babcock Test are as follows:

1. Be sure to mix the sample of milk thoroughly before drawing it out with the pipette.

2. When measuring a sample of milk with the pipette, keep the index finger dry.

3. When measuring a sample of milk, keep the mark on the pipette on a level with the eye. The same should be observed when reading the per cent of fat after the test is completed.

4. Do not try to measure a sample of milk by trying to draw the milk just to the mark on the pipette. Draw the milk above the mark, as directed.

5. When adding milk or acid to the test bottle, slant the bottle. The liquid will then run down the lower inside of the neck of the bottle and will not be forced out by the outcoming air.

6. Do not hold the bottle so that its mouth points toward yourself or any one else. The action of the acid upon the milk produces great heat. This heat often causes the contents of the bottle to spurt out violently.

7. After adding the acid to the milk, shake the bottle thoroughly until the contents become quite dark in color.

8. After using the pipette, wash it thoroughly, preferably in hot water. This will tend to prevent the transmsision of disease germs from the mouth of one person to another, should any such germs be present.

9. The tester should be firmly fastened to a solid bench or table.

10. The person operating the machine should give his or her whole attention to it, and not allow his fingers or clothing to get in the path of the bottle cups when the machine is in motion.

11. Remove all objects from the vicinity of the tester. This will prevent their being hit by the bottle cups when the machine is running.

12. If acid is spilled upon anything, pour on plenty of water, and then add some alkali, such as lime or baking soda, to neutralize the acid.

13. Do not leave the acid bottle uncorked.

14. Keep all glassware perfectly clean.

15. After washing the glassware, rinse it thoroughly in clean water to remove soap powder. The soap powder and the acid form a violent chemical reaction.

INSECTS AND DISEASES.

Experiment No. 30—Bacteria and Molds. Materials—Three test tubes, boiled potato or fruit; three apples, one partly decayed. Fill each tube about one-third full of apple sauce or boiled potato. Plug each one with cotton. Set one aside. Put the other two into a pail of water and boil for half an hour. After boiling set one tube aside with the cotton undisturbed. Take the cotton from the third tube and leave it out for half an hour or more, then put it back again. Leave these for a few days and see what happens. Account for the difference. Is it desirable to leave canned fruit open a few minutes before covering after cooking? Why?

Prick one of the sound apples in several places with a pin which has been sterilized by holding in a flame. Put the pin into the rotten apple and then into the sound apple. Repeat this in several places. Set the two sound apples aside for a week. What happens? What is one value of the skin to an apple? Why should fruit be picked and handled with care?

Experiment No. 31—Transformations of an Insect. Bring in cabbage worms, caterpillars and other insects and place in jars in the laboratory. Feed with proper plants and watch the transformations. Make drawings of each stage in the life of at least one insect. For this work a terrarium is very desirable. It is a box with glass sides and cover that can be conveniently opened and closed.

Experiment No. 32—Study of Grasshopper. Supply each student with one or two grasshoppers (or other mature insects). How many divisions in the body? How many legs does it have? What difference is there between the hind legs and the other pairs? How many wings are there? Do all insects have this number of wings? How are the wings folded? What difference between the outer and the inner pair? To what part of the body are the wings attached? The legs? Find the antennae (feelers). Examine the jaws. Do they move in the same way that yours do. If you have a compound microscope, see whether you can find the divisions of the compound eyes. Make drawings.

PENMANSHIP

(By H. A. Woodward, Wynne.)

FIRST DAY.

(1) Is penmanship as well taught as other subjects in the average school? Shall it remain in the back ground?

(2) Shall penmanship be sidetracked for "more important subjects" during this institute?

(3) Discuss—

"If you will show me how a child learns to walk, I will show you how he can learn to write."

1. Conscious effort.
2. Automatic action.
3. Individuality.

SECOND DAY.

Organization.

(1) Ungraded or small schools.

(a) How divided for work in penmanship.

(b) Materials used and how to secure them.

(c) Time used for writing.

(d) May uniform exercises be given to the entire school?

(2) First and second grades.

(a) Material.

(1) Blackboard, how used.

(2) Paper, kinds.

(3) Use of slate.

(4) Cardboard copies.

(b) Methods.

(1) Imitation, care in making copies.

(2) Close inspection to correct faults, such as making c or l backwards.

(3) Value of paper cutting or use of such materials as toothpicks in getting forms.

(4) Shall position be stressed in these as in higher grades?

(5) Discuss, "Writing should be of normal size from the beginning."

THIRD DAY.

(1) Is the third grade the proper place to begin the use of pen and ink?

(2) Aim.

(a) Perfect legibility.

(b) Ease of execution.

(c) Fair degree of speed.

(d) Which should be most stressed with third grade pupils?

(e) Would your practice preclude drill in movement in hope of earlier gaining perfection of form?

(f) The "lawyer's hand", a result of excessive use of movement of form.

(3) Need of movement drill in lower grades.

(a) The undeveloped child.

(b) Flabby muscles.

(c) Concentration in embryo.

(d) Inability to sustain effort beyond a brief period.

(e) Good handwriting unappreciated on account of being so remote.

(4) First movement.

(a) The most simple movement adapted to beginners is the "lateral slide".

(b) All assume the position (arm on desk in proper position, the elbow stationary, hinging at the elbow, without using the wrist joint).

(c) Swing from left to right as if brushing the desk free from dust, using dry pen or pencil.

(5) Results of this movement.

(a) The rythmic motion will please.

(b) Attention and interest will be gained.

(c) Will promote upright position.

(d) Will tend to relax too tight a grip upon the penholder.

(e) Will suggest freedom of action.

FOURTH DAY.

(1) Art of writing should be acquired as early as possible.

(a) Assistance in other work.

(b) Leaving school early.

(2) Same essentials in lower and higher grades.

(a) Same letters, spacing, height of letters, slope and relative height of parts.

(b) Habits that will stick.

(c) Uniformity of method in teaching.

(d) Habits formed in one grade to be corrected in the next.

(3) Discuss, "The same teacher of penmanship for all the grades". Would it be wise and practicable?

(4) Imitation.

(a) Eye and muscles.

(b) Models.

(c) Correcting faults.

(d) Imitating his own errors.

(e) Tracing.

(f) Advantage of the teacher who writes well.

FIFTH DAY.

(1) Correlation in teaching penmanship.

Discuss:

(a) Penmanship as an element of success.

(b) Methods of stimulating interest and ambition.

(c) Meaningless phrases (as many men mining in a mine).

(d) Practicing exercises relating to weakness of pupils in other work.

(e) Every written exercise a lesson in penmanship.

(f) Aid in learning to spell by using words often misspelled, such as eccentric, oscillate, symmetry, separate.

(g) Division of the advanced grades into two groups—those who take it for penmanship alone and those who wish to take it for commercial purposes.

GRAMMAR

(By J. P. Bingham, Atkins.)

This outline is intended to be suggestive, allowing the instructor such scope and freedom as he may wish to use. In the preparation of the same, former manuals and other sources of information have been used. The purpose is to give a practical plan for the work of one week or more.

Time was when formal grammar was the chief phase of English taught in the schools. Pupils who were accurate in parsing often used very poor English. Now the language lesson fills an important place in the earlier years of school life, giving a better foundation for the study of technical grammar, which should not be introduced before the sixth or seventh year.

The intent of the language lesson and the study of grammar is twofold:

1. To acquire ability to write and speak correctly the English language.

2. To improve and strengthen the mind by the science of language.

The earlier grammarians made the *word* the unit of language.

It is now preferred to make the *sentence* the basis of study in grammar.

The constructive rather than the destructive method should prevail throughout the teaching of this subject.

FIRST DAY.

1. Language lessons.

   (1) Should begin at what time of school life?

   (2) Should continue how long?

(3) Whether oral or written work should predominate.

(4) Give a good definition of language.

(5) Text-book should be introduced in what year?

(6) In what schools is this subject most neglected? Why?

2 Ways and means.

(a) Conversational exercises with pupils to develop expression.

(b) Sentence building—oral and written—from words selected.

(c) Sentences copied from board, chart and readers.

(d) Have lessons written on boards frequently.

(e) Require neat work at all times.

(f) Short compositions on familiar subjects.

(g) Teacher should indicate errors, but let pupil correct the same.

(h) Drill on capitals and punctuation until it becomes a fixed habit on the part of pupil.

(i) Every reading lesson a language lesson. How?

(j) Every spelling lesson a language lesson. How?

(k) Distinguished statements, questions, exclamations.

(l) Give many short choice selections for memory gems, even before pupils can read or write well.

3. For a continuation of this lesson, it is suggested that for the second and third days there be conducted a model recitation by a class of six, first, second or third year pupils, illustrating the above and other principles.

SECOND DAY.

1. Language lessons.

(a) Oral expression should predominate during the first two years, and occupy a prominent place in the next two years of the course. Why?

(b) In the later years of the course written work must be emphasized if the work is to be effective.

(c) Correlate this subject closely with others of the course. List those that best correlate. Tell why and how.

(d) The teacher must be careful in her own language. None but the best expressions should be used.

(e) Help the child form habits of correct expression. Assist him to enlarge his vocabulary. How?

2. Materials used as a basis of language work.

(a) Those things most intimately connected with the life of the child.

(b) Stories told by teacher at morning exercises.

(c) Stories from the readers and story books.

(d) A day in the circus, a picnic, a balloon ascension, a half holiday, pictures.

(e) Suggest other common experiences in and out of school to use in oral and written work.

3. Method of use.

(a) A story told by teacher may be reproduced by pupils orally—teacher assisting by questions if necessary.

(b) May be written if pupils are sufficiently advanced.

(c) Teacher and pupils form an outline of topics.

(d) Letters describing some of above or other events may be written; teacher showing form, heading, address, etc., from board.

(e) Good pictures may be used to advantage as subjects for composition work.

(f) The work for the lessons should be carefully planned so that the teacher may direct the conversation of the class and control the recitation at every step.

(g) Teacher must use tact in correcting errors. Harsh criticism seriously interferes with language work.

(h) Have pupils memorize a few short prose selections and numerous simple poems.

(i) Occasionally have some of these selections written from memory.

THIRD DAY.

Language Lessons.

It is suggested that the conductor devote at least one lesson to discussion of composition work.

This is a subject neglected in many schools and should be emphasized at every Institute.

1. Composition.

(a) May be introduced early as oral work by having pupils discuss simple subject.

(b) Should be required as soon as pupils can write legibly.

(c) At first limit the work to subjects easily within the grasp of the pupils.

(d) Teacher should prepare outlines for beginners, thus encouraging and assisting the timid ones.

(e) Following a topical outline will assist in developing the paragraph, which should be stressed early in the work.

(f) Occasionally take subjects from choice literature. Fine examples are: The Village Blacksmith; The Old Oaken Bucket; The Gentle Hand; The Fox and the Grapes, and many others. "Suggest a few."

(g) Discriminate in choice of words, and emphasize necessity of using dictionary constantly.

2. Example of an outline.

Subject, "Snow."

(1) Time of year for snow.

(2) Appearance in coming down.

(3) Effect of wind when falling.

(4) Amusements connected with snow.

(5) Ways in which snow is beneficial.

(6) Trouble and suffering connected with snow.

(7) Places where snow exists all year.

(8) Places where it never falls.

(9) Length of time it remains here.

(10) Causes of its disappearance.

3. Have each member of Institute make an outline and write a composition on any one of following subjects: Home, Friends, Roads or Pictures.

Have some put outline on board, others to read compositions.

FOURTH DAY.

Technical Grammar.

Conductor use as he chooses. Would suggest that Institute recite with manuals closed. Sentence the unit.

Outline of the sentence:

1. As to structure.

(a) Simple.

(b) Compound.

(c) Complex.

(d) Complete.

(e) Abridged.

2. As to use.

(a) Declarative.

(b) Interrogative.

(c) Exclamatory.

(d) Imperative.

3. Elements of sentence.

(1) Subject—consists of:

(a) Noun.

(b) Pronoun.

(c) Participle.

(d) Infinitive.

(e) Clause.

(2) Predicate—consists of:

(a) Verb.

(b) Verb phrase.

(c) Coupla and attribute.

(3) Attribute—may consist of:

(a) Noun.

(b) Pronoun.

(c) Participle.

(d) Infinitive.

(e) Noun clause.

(f) Adjective.

(g) Prepositional phrase.

1. Clauses.

(1) Principal.

(2) Subordinate—may be.

(a) Subject.

(b) Object.

(c) Complement.

(d) In apposition.

(3) An Adverb—expressing:

(a) Time.

(b) Place.

(c) Degree.

(d) Condition.

(e) Manner.

(f) Purpose.

(g) Reason.

(h) Concession.

(4) An Adjective.

(a) Restrictive.

(b) Explanatory.

FIFTH DAY.

Technical Grammar.

Write a dozen sentences illustrating most common errors in use of pronouns and verbs.

Discuss methods of correcting and avoiding such mistakes.

Use is the only test of the part of speech of a word.

See in how many ways the words, "iron", "save" and "except" can be used.

A thorough study of the verb in all of its relations should be emphasized in teaching grammar.

Have some member of the Institute volunteer to put on the board a synopsis of the conjugation of verb "choose", active and passive forms.

A judicious use of the diagram is an excellent means of maintaining interest in the study of grammar.

It is a picture of the relations of the parts of a sentence presented to the mind through the sense of sight.

Discuss mode in following sentences:

1. You *may select* your own course of study.

2. Unless he *reforms,* he can not be trusted.

3. If I *were* you, I *would attend* the Institute.

4. Though he *was* old, he *was* not infirm.

5. I *would* that father *were* here.

6. *Honour* thy father and thy mother.

7. I *stood* on the bridge at midnight.

Analyze the following sentences—the even numbers orally, the odd numbers by diagram. Parse the words in italics:

1. Still *sits* the schoolhouse by the road.
   A ragged *beggar* sunning;
   Around it still the sumachs grow,
   And blackberry vines are running.

2. Our eyes are *holden* that we can not see things that *stare* us in the face, until the hour arrives when the mind is ripened.

3. *That* which we do not believe, we can not adequately say, though we may repeat the words ever so often.

4. *Let* us be of good cheer, *remembering* that the misfortunes hardest *to* bear are those which never come.

READING

(By Margaret Sue Burney, Van Buren.)

FIRST DAY.

Introduction.

1. Definition of reading.
2. General aims in teaching reading.
   (a) Mastery of mechanics of reading.
   (b) Interpretation of the reading matter.
   (c) Portrayal of thought of the writer.
   (d) Increasing vocabulary of child.
   (e) Creating a love of good literature.

(These points are more profitably brought out if continually kept in mind throughout the week instead of being fully discussed on the first day.)

FIRST GRADE.

1. Main idea is word recognition. The child must *know* the words before the other points of reading can be given. Blackboard work for first six weeks is recommended always, though authorities differ as to whether the script or printed words should be used on the board. There is good ground for either. The child must learn by means of devices and the most capable teacher is the one most resourceful in securing material for active and live work among the pupils.

2. Following closely word recognition comes phrase-reading and after that the reading of short easy sentences. The pupil should not be allowed to read either phrase or sentence haltingly. Teach him as early as possible that the real idea is to read to

learn and to give the thought to others. In this way the child unconsciously will learn correct expression. Get proper expression by questions on sentence rather than by having child imitate the expression of the teacher.

3. After the book is taken up, some method as to expression followed. The best reader for this grade is one which uses some words often. New Education Reader is especially good as it furnishes the word cards which are helpful. The child should have one hundred fifty words at his command when the first grade work is over. "Going through" the first reader a second time is not advised. Give the child a new reader or a book of simple stories which contain many of the same words.

4. Teaching of phonogram. It is highly important that a child learn the sound before the name of the letter, then the letter will be easily learned. Daily drill on phonograms and faults of the same will be necessary. Blend method is excellent for giving child larger vocabulary. Throughout the entire work the teacher must keep the interest of the children by means of illustration of the words, sentences, and stories by pictures, cards, games and other devices. Let the child begin here to take pleasure in new knowledge.

SECOND DAY.

1. Continue drill on phonograms and phrasing.

2. Remember that "second grade" children are still primary children and that many devices and symbols must be used to teach even the simplest facts.

3. Insist on natural expression and correct position. Some children have naturally harsh or weak voices, weak chests and stooping shoulders. Often these faults may be corrected if an effort is begun early in the child's school life.

4. Learning of memory gems. These should be carefully selected and an intelligent rendering of the same insisted upon. For supplementary work see list of books given at close of outline.

THIRD DAY.

Intermediate Grades.

1. Idea to be kept in mind constantly throughout the third year, that at the end of the year the mechanical part of reading should be well mastered.

2. The problem now is to guard against the substitution of word pronunciation for reading.

3. Teachers should read to pupils as an example of good reading, but during the reading lesson, the question method is the approved one for making the expression of the child's reading independent.

4. During the fourth and fifth years the child has also to read much to learn his other lessons as arithmetic, geography, etc. The teacher should see to it that he reads these intelligently and so avoid inaccuracy and bad habits of reading. Encourage use of dictionary to make child independent.

Model class, fourth grade, with following points kept in mind:

1. Teaching proper appreciation of the subject matter of reading lesson.
2. From (1) developing proper expression.
3. Giving special attention to accent and emphasis.
4. Noticing, though not pointing out always, the moral lesson contained in reading matter.

FOURTH DAY.

Higher Grades.

Reading is now largely a study of literature and great attention should be given to the merits of the selection from literary standpoint. If the reading matter is properly understood in this way, the expression should be much better. Keep well before the child the idèa of reading as a means of giving thought definitely to others. The attention to pronunciation, inflection, and emphasis should be continued.

Model class.

FIFTH DAY.

Short papers or discussions on the following questions:

1. The child usually begins to read for himself during the fifth or sixth year of his school life. What have you as teacher done to give him a desire for good literature?
2. Does a mark of punctuation always indicate the same inflection?

3. What are the characteristics of a good set of readers?

4. How far is it possible to keep up with the home reading of a child and how far practicable?

5. Other questions suggested during the week.

SUGGESTIVE LIST OF POEMS FOR MEMORY WORK.

GRADES, FIRST AND SECOND.

McDonald's Baby, Taylor's Twinkle, Twinkle, Little Star, *Sail on the River, Poulsson's Sunbeams.

GRADE THIRD.

Field's Christmas Song, Cary's Naughty Little Robin, Field's Rock-a-By-Lady, Larcom's Brown Thrush, Sherman's Daisies.

GRADES, FOURTH AND FIFTH.

Aldrich's Marjorie's Almanac, Longfellow's The Arrow and the Song, Longfellow's Village Blacksmith, Emerson's Mountain and the Squirrel, Cary's Our Heroes.

GRADES, SIXTH AND SEVENTH.

Whittier's A Better Land, Longfellow's Psalm of Life, Bryant's Planting of the Apple Tree, Longfellow's Excelsior, Longfellow's Paul Revere's Ride, Tennyson's Bugle Song.

This list may be shortened or lengthened according to the amount of time.

*Rossetti's Boats Sail on the River.

ARKANSAS HISTORY

(By W. D. Jeter, Bentonville.)

FIRST DAY.

Indian History Connected with Arkansas.

1. Indian relics found in Arkansas.
2. Conditions of Indians when Arkansas was first explored.
3. Indian tribes.
    1. Osages and Quapaws.
        (1) Original home.
        (2) Immigration to Arkansas.
        (3) Treaty with Osages, 1808.
        (4) Treaty with Osages, 1818.
        (5) Treaty with Quapaws, 1818.
        (6) Treaty with Quapaws, 1824.
    2. Cherokees.
        (1) Treaty of 1817.
        (2) Treaty of 1828.
    3. Choctaws.
        (1) Treaty of 1820.
        (2) Treaty of 1825.
    4. Passage of other tribes through Arkansas on their way to their western homes.

Early Explorers.

1. DeSoto.

    Nation represented, date, purpose of expedition, route to Arkansas, experiences in Arkansas, route through Arkansas, death.

2. Marquette.

   Date, nation represented, route to Arkansas, purpose of expedition, experiences.

3. LaSalle.

   Date, nation represented, route to, purpose, experiences.

   (1) DeTonti, father of Arkansas.

   (2) First settlement.

SECOND DAY.

French Domination.

1. French Governors.
2. Mississippi company.
3. LaHarpe expedition.
4. Indian wars.
5. End of French control.

Spanish Domination.

1. Spanish Governors.
2. Effect of change on the people.
3. Cruel O'Reilly.
4. Troubles over the Mississippi.
5. Louisiana becomes French territory again.

Purchase of Louisiana.

THIRD DAY.

Territorial History.

1. Part of Louisiana province.
2. Part of District of Louisiana.
   (1) Lewis and Clark expedition.
3. Part of Territory of Louisiana.

(1) Wilkinson's expedition down the Arkansas River.

(2) New Madrid earthquake.

4. Part of Missouri territory.

(1) Nutate expedition.

5. Territory of Arkansas, 1819-1836.

(1) First Governor and Secretary of State.

(2) First Legislature.

(3) First newspaper.

(4) Second Legislature.

(5) Dwight mission.

(6) Izard, second Governor.

(7) Pope, third Governor.

(1) Building of Statehouse.

(8) Fulton, fourth Governor.

(1) First constitutional convention.

(2) Becomes a State.

FOURTH AND FIFTH DAYS.

Arkansas as a State.

Some Important Events.

1. State and Real Estate Banks.
2. Holford bonds.
3. Common school law of 1843.
4. Arkansas takes part in Mexican war.
5. Position concerning secession.
6. Admitted to the Confederacy.
7. Constitution of 1861.
8. Important battles fought in Arkansas.

9. Prominent Arkansas soldiers.
10. Provisional Government under the United States.
11. Constitution of 1864.
12. Constitution of 1868.
13. Establishment of Arkansas Industrial University
14. Brooks-Baxter War.
15. Constitution of 1874.
16. Fishback Amendment.
17. Hinemon Amendment.

UNITED STATES HISTORY

(By N. M. Whaley, Camden.)

FIRST DAY.

History in the Primary Grades.

a. Methods of Instruction.

1. By stories told, not read. Why?

2. The quiz, used in reviews to fix important points in the story, to hold attention, and to arouse interest in what is to follow.

3. Read aloud poetry, dialogue, or description.

4. Illustrate stories by pictures, drawings, maps, etc.

5. Oral reproduction of stories by topics suggested by teacher.

6. The fourth grade may occasionally give written reproductions, dramatize, stories, and make drawings to represent their own mental pictures.

7. Children should be encouraged to read. There are many books of historic stories simple enough for pupils of the third and fourth grades to read—stories of primitive life not only of the American people but of any historic race.

b. Purpose of History in Primary Grades.

1. Faculties of the mind to be developed. What are they?

2. Other benefits.

c. The instructor should ask previously some primary teachers to prepare some suitable stories to illustrate history work

in the primary grades—such as Objiwa, Pocahontas, Puritans, Pilgrims, Arcadians, or stories from "Little Folks in Many Lands".

SECOND DAY.

History in the Fifth Grade.

a. Work Largely Biographical.

1. Stories of great men specially pleasing to pupils of this age.
2. Biography useful in character building.
3. Biography gives a pleasing introduction to the study of history so it does not become a "dry" subject in the upper grades.
4. Leads pupils to form a habit of reading.
5. Creates a love for the right kind of literature.

b. Methods of Instruction.

1. The same devices may be used that were suggested for primary work, but not to such an extent.
2. The pupil has a text-book and is not so dependent upon the teacher for instruction. Stories from American and English history should be used as a text. The district should furnish other books in addition to the text. Students of this age read a great deal if given an opportunity to do so.
3. Recitation topical. Children delight to tell these stories themselves. Discuss other reasons.
4. Frequent oral reviews. Occasional written.

c. The instructor should ask some one to put on the board the day before a biographical outline of Benjamin Franklin and Abraham Lincoln for Institute study.

HISTORY PROPER.

History proper should begin in the sixth grade with an elementary text-book interest centering around events rather than persons.

a. Methods of Instruction.

1. Outline.

(a) Aids pupils to correlate ideas.

(b) Shows relative importance of ideas.

(c) Discuss other advantages or disadvantages.

(d) Outline whole subject at the first lesson. Why?

2. Topical or quiz method may be used in recitation.

3. Daily questions on review. Why?

4. Interest may be added.

(a) By references to literature.

(b) By observing birthdays of eminent men.

(c) By frequent exercise in biography.

b. Instructor should have some one prepare a paper on the life of Benedict Arnold, using as a literary reference "The Death of Benedict Arnold".

THIRD DAY.

Life in the Colonies.

a. General View.

1. Population in 1760.

2. Slavery, slave trade, Northern colonies, Southern colonies.

3. Government: Republican, Proprietary, Royal.

4. Colonies classified: Three groups; differences, resemblances.

b. New England Colonies.

1. Occupations of the people.

2. Towns: Origin, limits, government.

3. Religion: Church, intolerance, ministers, church services.

4. Laws: Capital offenses, modes of punishment.

5. Grades of Society: Basis, classes, distinctions.

6. Dress: Of the men; of the women.

7. Social life: Pleasures, holidays marriages and funerals.

8. Education: Schools, literature.

c. Southern Colonies.

1. Occupations, principal crops.

2. Absence of towns, county seats, principal towns.

3. Slavery: Profitableness, number, Whitfield's argument, relation between master and slave.

4. Government: Royal, influence of land owners, the county, trial of offenses, modes of punishment.

5. Society: Large and small planters, traders and laborers, slaves, court days, marriages.

6. Religion: Church, dissenting sects, intolerance, clergy.

7. Education: Schools, colleges.

8. Literature: Character.

d. Middle Colonies.

1. Nationality.

2. Occupations: Products, exports.

3. Religion: Denominations, ministers, toleration, in New York.

4. Education: Schools and colleges, superstitions.

5. Government: Pennsylvania, Delaware, New York, New Jersey, local government, punishment of crime.

6. Social classes: Patroons, other land owners.

7. Social life: The Dutch of New York, the Quakers. (Outline from Our Country.)

FOURTH DAY.

Under the Articles of Confederation.

a. During the Revolution.
   1. Central government.
   2. Relation of States to the central government.
   3. Force and authority that carried on the war.

b. Articles of Confederation.
   1. Committee on new government, appointment, report.
   2. Influence of the cession of public lands on ratification
      (a) Maryland's objections.
      (b) Virginia's claims.
   3. Nature of the articles.
   4. Weaknesses.

c. Difficulties.
   1. Violations of the treaty between United States and England.
   2. Disputes with Spain.
      (a) Boundary of West Florida.
      (b) Navigation of the Mississippi River.
   3. The credit of United States at home and abroad.
      (a) Paper money.
      (b) Payment of the national debt.
      (c) Assumption of State debts by the Nation.
   4. Disputes in regard to State boundary lines.
   5. Shays' Rebellion.

d. Opening of the West.
   1. The "Public Domain". What is meant by it?
      (a) Southwest and Northwest Territories.

(b) What was the boundary line between them? What States have been formed from each?

2. Migrations Westward: Causes, routes, land bounty.

3. The Ordinance of 1787.

e. The Formation of a New Constitution.

1. Cause of an attempt to amend the articles.

2. Steps leading up to the constitutional convention.

3. The convention: Members, questions in dispute, compromises.

4. Discussion and ratification of the Constitution.

(Outline from Bliss' History in Elementary Schools.)

FIFTH DAY.

For General Discussion.

1. The "Spoils System"; Origin; Is it still in force?

2. Discuss each of the political parties of history by the following outline: Cause; platform; work; cause of decline.

3. Give ten turning points in American history.

4. Outline the tariff legislation of Congress.

5. Discuss Webster's change of opinion on tariff.

6. Discuss Lincoln's change of opinion on slavery.

7. Bland silver bill, purpose and effect.

8. History of prohibition in Maine.

9. Purpose and work of the last extra session of Congress.

10. Leading questions at present (a) in State politics, (b) National politics.

11. Could and should United States have prevented (a) the war of 1812, (b) the war with Mexico, (c) Spanish-American war?

12. Teacher, "What is patriotism?" Pupil, "Killing Spanlards". Discuss the pupil's definition.

13. Who is the greatest American?

SUBJECTS FOR PAPERS.

1. Brief story of the Revolution from Lexington to Yorktown.

2. Character of Lee. As reference to literature use "The Sword of Lee".

3. The wastes of war. Compare the cost of militarism with that of public education.

4. Story of The Hague conferences.

5. The mission of United States in cause of peace.

6. Teaching peace in public school through instruction in history.

(Material for the last four questions may be had from Miss Fannie Fern Andrews, 405 Marlborough street, Boston, Mass.)

ORTHOGRAPHY

(By U. C. Barnett, Dermott.)

FIRST DAY.

(a) Values of a knowledge of subject:

1. Utilitarian.
2. Cultural.
3. Disciplinary.

(b) Mental activities involved in its study:

1. Observation, which should become habitual in reading.
2. Association of the form of the word with its meaning and use.
3. Memory, generally without effort.
4. Habit, psychical and physical, in the use of the correct form in writing. This habit depends on proper observation and association.

(c) How correlated:

1. Inseparably associated with writing, composition, capitalization, punctuation.
2. Inseparably associated with meaning. Does a knowledge of the meaning of a word aid in spelling it?

Attention is called to subtopic 1 under topic b. This, doubtless, is the chief means by which our knowledge of spelling is derived.

SECOND DAY.

(a) Definition:

More than uttering the letters of a word as they come consecutively. Finish the definition.

(b) Attention given it:

1. Is it proportionate to its importance?
2. How does it compare with that given it ten years ago? What testimony on this subject does the comparison of the spelling ability of the pupil of that day and of this reveal?

(c) Modern text books:

1. Compared with earlier texts.
2. Considered from the standpoint of practicability. Do they all contain words used in ordinary business transactions?
3. Should they group words similar in sound or associated in thought?

(d) Account for misspelled words in the business letter of today. Are they due more to ignorance than to carelessness or oversight?

(e) Where did you learn to spell? How many of the words you write daily did you learn to spell in a spelling book?

THIRD DAY.

(a) The diacritical marks:

1. Macron, (ā)
2. Breve, (ă)
3. Circumflex, (ê)
4. Dots above, (ï)
5. Dots below, (o̤)
6. Dot above, (ȧ)
7. Dot below, (ạ)
8. Tilde, (ñ)
9. Lower bar, (a̲)
10. Suspended bar, (o̵)
11. Transverse bar, (ɇ)
12. Cedilla, (ç)

13. Modified Macron, (ē)

14. Inverted breve, (o̯)

Teach them by use of monosyllables.

Require pupils to give the sound of letters separate from the word. (Let the instructor illustrate, and require all the elementary sounds to be given.)

When should you begin the use of the diacritical marks? What relation have they to learning to spell?

(b) Elementary sounds:

1. Number. Prepare a table giving each and an equivalent for each that has one.

2. Vowels. Distinguish carefully between a vowel and a vowel sound. Diphthongs. What is an improper diphthong; tripthongs; subvocals; aspirates?

3. Consonants: Mutes, semivowels, liquids.

(c) Words:

1. Classes with reference to number of syllables.

2. Classes with reference to formation.

(d) Accent: Stress, emphasis. Distinguish carefully the difference.

(e) Phonetic Alphabet:

1. What is it?

2. Of what value would it be?

FOURTH DAY.

(a) Pronunciation.

Since we pronounce more than we spell, a knowledge of pronunciation would seem of greater value than a knowledge of spelling. Let frequent and careful drills be given in phonology. Try your pupils on such lines as

"He thrusts his fists against the posts,
And still insists he sees the ghosts."

Few things will mark one as ignorant so quickly as incorrect pronunciation. On the other hand, careful enun-

ciation and correct pronunciation are almost sure badges of culture. One's refinement is an object of suspicion, too, when he mispronounces, not through ignorance, but through carelessness. Slouchiness of speech is as distasteful to refined ears as slouchiness of dress is to refined sight. The sound of the letter "g" at the close of imperfect participles is an object of greater neglect probably, than any other sound of the language. A teacher is not held guiltless of a great dereliction of duty who does not seek to correct such delinquencies of speech, even in the lower grades. Never let incorrect pronunciations pass unnoticed in the class. It is often fruitless effort to try to improve a pupil's speech by making such corrections, especially when the learner is accustomed to hearing the language incorrectly spoken at home, yet that does not release the teacher from the responsibility. Nothing indicates so quickly a child's progress in school as his improvement in pronunciation.

Have a pupil to sit unnoticed near where pupils are playing on the school ground some time, and take note of the mispronunciations of the players. Read and correct these errors before the whole school. The pupil's report may surprise you.

How are these words often mispronounced: History, government, auxiliary, gospel, intransitive, Caucasian, equivalent, Lutheran, president, furniture, aunt? Make a list of twenty-five other words in common use so frequently mispronounced.

(b) Simplified Spelling:

1. What is it?
2. Do we need it?
3. Is it really an improvement as well as a reform?

Information as to what the Simplified Spelling Board is doing may be obtained by addressing it at No. 1 Madison avenue, New York.

(c) Homonyms.

(d) Synonyms.

(e) Antonyms.

FIFTH DAY.

Methods of Teaching:

(a) In primary grades:

1. Would you require beginners to spell from the book?
2. In what grade do you introduce spelling without the book?
3. Do you require syllabication as soon as you reach words of two syllables?
4. When do you introduce written spelling?
5. Do you require pupils to learn to spell all new words in the reading lesson? If so, what advantage is it?

(b) In advanced grades:

1. Advantages of written spelling.
2. Advantages of oral spelling.
3. Advantages of alternating them.
4. Definitions. When the definitions of two homonyms are required, the same pupil should spell both and give the definitions.
5. Use of words in sentences.
6. Spelling matches, etc.

Miscellaneous Suggestions and Questions.

Every piece of written work in school should furnish material for a spelling lesson. The learner's attention should be called to every misspelled word. In grading written work, it is a good plan to allow 10 per cent for neatness, spelling and punctuation. Spelling is often improved in this way.

In oral spelling, each syllable should be pronounced as soon as it is spelled. This affords a splendid drill for the articulatory organs.

In written spelling, the work should be exchanged and criticised by the members of the class. The critics should

grade carefully that no misspelled word may be overlooked. The habit of close observation is acquired here which will serve so well to improve one's spelling in after life. Teachers should look over written spelling work at regular intervals and criticise the critic by marking all errors of spelling that have escaped his notice and call his attention to them.

A small memorandum book should be used exclusively for this written work.

What letters of the alphabet could be dispensed with without the loss of any of our elementary sounds?

Mark diacritically the first "e" in "sergeant."

At the Louisiana Purchase Exposition the "U's" in the word "Manufactures" on the Manufactures building, were made "V's." Why was this?

PHYSIOLOGY AND HYGIENE

(By D. L. Paisley, Argenta.)

If the study of Physiology and Hygiene as they have been taught in the public schools is adding to the length of life during this generation; surely a more correct knowledge of *self*, of *imprudences*, and of *diseases* that affect us will add more years and greater usefulness to the life of the coming generation.

The time has come when teachers must teach parents, if need be, that they should give to the boy and girl in the home, before they enter school, full, clear and candid instruction about many things that a false and foolish idea of modesty has hitherto forbidden. Parents must know that if they as parents neglect this duty older boys and girls will give incorrect and very hurtful instruction. In this way the young mind that might have been made to see a beauty in the reproductive plans of a good and great God, had the parent done his duty at the right time, becomes poisoned and sees the whole matter in a low and incorrect light for the rest of its life.

FIRST DAY.

The Boy.—Things he ought to know from his father, if not from father, from a fatherly teacher:

1. How God brings plants, birds and animals into the world.
2. Why he is called a boy.
3. How to care for himself as a boy.
4. What things he must avoid while he is a boy, if he hopes to be a sound, strong, pure and honorable man.

SECOND DAY.

The Girl.—Things she ought to know from her mother, if not from her mother, from a motherly teacher:

1. How God brings plants, birds and animals into the world.
2. Why she is called a girl.
3. How to care for herself as a girl.
4. What she must avoid while she is a girl, if she hopes to be a strong, pure and respected woman.

THIRD DAY.

Health.—What is it? Favorable conditions:

1. Clean, sanitary clothing enough to keep warm.
2. Shoes that fit the feet and keep them dry and warm.
3. Clean skin, frequent bathing necessary.
4. Clean Oral Cavity. Teeth cleaned after each meal. Use brush in such a way as to leave no filth in mouth, as it may cause catarrh, throat and lung troubles.
5. Clean, well-trimmed finger and toe nails.
6. Clean hair and scalp.
7. Clean home in which to live. Sanitary toilet at every home.
8. Clean schoolhouse. Free from dust. Well ventilated.
9. Clean schoolhouse grounds. No trash, no paper, no leaves. Sanitary toilet.

FOURTH DAY.

Disease—What is it? How avoided:

1. Mosquito, a malaria carrier. Keep him out.
2. Fly, bad milk, bad water are the cause of typhoid.
3. Soil polution is only cause of hookworm. Sanitary toilet is necessary.

4. Bad cooking, bad masticating are causes of indigestion.

5. Keep your body strong, and it will resist most infections.

6. Take no risks on after effects of any disease. Consult the doctor.

7. Beware of overeating. We all eat too much.

8. Take very little medicine. Know what you take.

9. Be cheerful and social.

FIFTH DAY.

Outdoor Sports.—Self-Restraint. All pupils should take part in the games and all games should be under the direct supervision of the teacher. Baseball, basketball, football and tennis are each good games. These games teach boys to think quickly. They also develop and train the muscles. Best of all, they teach self-control and due respect for the rights of the other boys. There can be no success in games without team work, no team work without self-control.

Basketball, tennis, rope jumping and other running games are good for girls. Girls must be watched much more closely in athletics than boys. If some one does not stand on guard and prevent it, girls will engage in violently contested games at times when it may be ruinous to their future health.

Dieting, refraining from smoking, from cold drinks, and such things are no trouble after the athletic spirit gets into the school. Pupils get lessons of self-control that will make them better citizens.

GEOGRAPHY

(By L. E. Quinn, Ashdown.)

In order that the study of Geography in our County Institutes and Normals may be conducted along progressive lines, the subject is herein treated in accordance with what is termed the "Causal Notion or Plan."

I shall try to avoid the repetition of much that has been studied during the past three years as given in the Institute Manual.

FIRST DAY.

Define air, atmosphere, hot, cold, wet, dry, light, heavy.

Define wind; weather, fair, cloudy, stormy.

What is climate? Give controlling influences.

How is temperature measured?

Bring thermometer and explain how made, how read, usefulness.

Explain the difference in temperature of land and water.

Define Heat Equator, North Temperate Belt, South Temperate Belt, North Cap, South Cap.

Trace above around the globe.

Bring a barometer. Explain how made, how read, usefulness.

Draw a circle; locate thereon, polar winds, stormy westerly winds, northern horse latitudes, southern horse latitudes, northeast trade winds, southeast trade winds, doldrums.

Explain horse latitudes, monsoons, doldrums, sea breezes, mountain winds.

Which winds bring rainy weather to your homes? Clear weather? Give the reason in each case.

Define rainfall, storms, cyclones, tornadoes, typhoons, and give causes.

Compare the yearly rainfall of Arkansas and Cuba and account for the difference.

Explain United States weather signals.

How is information gathered and distributed?

Of what service to United States in general and to our own State in particular.

Locate and give cause of gulf stream, Labrador current, Japan current.

Define waves, surfs, tides, flood, ebb.

What is meant by tidal bore? What is a lagoon?

Define glacier, moraine, detritus; terminal, lateral and medial moraines.

In what parts of the United States have we evidence of glaciated area? Locate and name a valley glacier in the United States.

Have glaciers determined to any extent the occupations of inhabitants? How?

SECOND DAY.

The careful consideration and study of the foregoing leads to (1) distribution of plants, (2) animals, and (3) people of the world.

Discuss influences that determine plant growth; climate determines what?

Name two necessities for luxuriant plant growth.

Give determining causes and definition of forests, grass lands, deserts, savannas, steppes, tundras, jungles, oases.

Locate the greatest tropical forests, the greatest temperate forests.

In which do we find the most progressive nations and the densest population? Why?

Name the chief products of these forest regions and locate five cities in each.

"The distribution of animals over the world is closely related to the distribution of plants."

Discuss "Relation of Animal Characteristics to Regions".

Make lists of animals that live in the tropical forest region, the tundra region, the grass land region, the desert region, the Arctic region, Oriental region.

Discuss the chief geographical causes of the distribution of mankind over the world.

Give the physical characteristics, pursuits, religion and government of the white race, yellow race, red race and black race.

Name three causes which have determined to great extent their location.

THIRD DAY.

Discuss the manner of procuring food, clothing and shelter among the different races.

Define commerce and trade, barter, money.

Define transportation, land and water.

Name and locate three leading railway systems of the United States. Name and locate three steamship routes leading from American ports.

How does man overcome climatic conditions? How does he modify the distribution of water?

Discuss how man changes the aspect of land, the distribution of plants and animals.

Name ten rivers in the United States that provide cheap and easy transportation; ten in Europe.

How is transportation interfered with on the Nile? The Congo? The St. Lawrence?

Name and locate the canals of the United States and tell how they have facilitated land and water commerce.

Discuss the causes that have led to the development and growth of the following cities—Chicago, Pittsburg, Pa., St. Louis, New Orleans, Denver, San Francisco, Little Rock.

Of what commercial importance is the Henry M. Flaglar "Ocean Railroad"? Why was San Francisco instead of New Orleans selected for Panama Exposition?

Name the chief crops in the Gulf States, Mississippi Valley, Rocky Mountain Region, Pacific Slope, Northeastern States.

Name the metallic and nonmetallic minerals mined or quarried in the United States.

Name four centers of iron industry, six great coal fields, three lead and zinc regions, three copper regions, of the United States.

Name the gas and petroleum fields of the United States.

Name the towns and cities in Arkansas that have natural gas. Give source, trace pipe lines.

Discuss advantages of cheap fuel. Compare cost of wood, oil and gas as fuel.

FOURTH DAY.

1. Use the following outline in the study of Mexico and China.

1. Localities.
   (a) Latitude and longitude.
   (b) Positions.
   (c) Boundaries.
2. Extent.
   (a) Length.
   (b) Breadth.
   (c) Area.
3. Size.
   (a) Absolute.
   (b) Relative.

4. Outline.
   (a) Form.
   (b) Regular, irregular.

5. Surface.
   (a) Hills, mountains, valleys, plateaus.
   (b) Rivers and harbors.
   (c) Watersheds.

6. Drainage.
   (a) River systems.
   (b) Special streams.
   (c) Lakes.

7. Climate, seasons.
   (a) Causes.
   (b) Healthfulness.
   (c) Adaptation to industries.
   (d) Compare with other localities.

8. Leading industries.

9. Products.
   (a) Agricultural.
   (b) Mineral.
   (c) Forests.
   (d) Manufactures.

10. Commerce.
   (a) Railways.
   (b) Seaports.
   (c) Commercial centers.

11. Inhabitants.
   (a) Classes.
   (b) Manners and customs.
   (c) Language.
   (d) Education.
   (e) Religion.

12. History.
   (a) Discovery.
   (b) Conquests.
   (c) Places of historical interest.

FIFTH DAY.

Arkansas Geography.

Draw by scale a map of your county. Locate the cities and towns, streams and railroads.

Into what river does the drainage flow?

How does the water reach the Gulf of Mexico? What is the chief industry? What is the character of the soil on the uplands; in the valleys? What are the chief crops? Why? Where marketed? Where is timber found? Name minerals; chief varieties.

Discuss the character of the streams in the southern and northern parts of the State.

Name the counties and county seats of Arkansas.

Discuss the geological history of Arkansas.

At the present time where do the people of Arkansas get their manufactured articles, such as Portland cement, pressed brick, lime and salt?

Why are not more of these products manufactured in Arkansas?

What are the freight rates on leading commodities to your home town from St. Louis, New Orleans, Memphis, Dallas, Little Rock?

Name the trunk line railroads in Arkansas.

Watch a train of freight cars today and tell, from the lettering, the roads to which they belong, and then locate those roads.

Discuss the climate of Arkansas.

What is the annual rainfall at Little Rock? Fort Smith? Newport? Texarkana?

ALGEBRA

(By W. E. Halbrook, Choctaw.)

FIRST DAY.

Algebra—mathematics by signs and symbols.

The foundations of algebra are laid, or should be, in primary number work, and later, perhaps, in grammar school arithmetic. The processes indicated by +, —, ×, ÷, etc., should be well known. But in many schools the order of process is not developed in the grammar grades.

For example, $7\times6+9-12\div3=?$

If taken as it comes,

$$7\times 6=42$$
$$42+ 9=51$$
$$51-12=39$$
$$39\div 3=13$$

But taken in the order of process,

$$7\times6=42$$
$$12\div3=4$$
$$42+9-4=47$$

To the Conductor: If the teachers are not familiar with the order of process, similar exercises should be given. The force of signs is essential in algebraic processes.

Based on whatever drills that may have been in the grammar grades, lead up to the algebraic process, like this:

If the sum of two numbers is 48, and the greater is three times the lesser, find the two numbers.

Greater number + lesser number = 48.

Greater number = 3 times lesser number.

Three times lesser number + lesser number = 48.

Four times lesser number = 48.

Lesser number =48÷4=12.

Three times lesser number =36.

Greater number = 36.

By algebra — suggestion.

$$3l+l=48$$
$$4l=48$$
$$l=12$$
$$3l=36$$

Drills in combination:

$$7x+2x=\text{ how many x?}$$
$$2x+3x+6x=(?)x$$
$$5x+7+3x+1=(?)x+?$$
$$4w+8+3w-2=?$$

If y represents yards and y=3f, express 2y+2f in terms of f.

If y represents one year and y=12m, express 3y+4m in terms of m.

Express 3p+5q in terms of q if p=8q.

A man is three times as old as his son. If x represents the son's age, what will represent the father's age?

A father is 35 years older than his son. If x represents the son's age, what will represent the father's age? If x represents the father's age, what will represent the son's age?

Two boys caught 36 perch. If one boy caught 3 times as many as the other, how many did each catch?

If a rectangle is three times as long as it is wide, and its perimeter is 64 feet, how wide is it?

If the difference of two numbers is 27, and one is four times the other, find the numbers.

A number plus four-fifths of itself is 72. Find the number.

Signs.

Express the sum of a and b.

Express the difference of a and b.

$a \times b = a\ b = ab.$

$$a \div b = \frac{a}{b}$$

Note: $m \div ab$ is not the same as $m \div a + b$.

Coefficient.

$4xy$, 4 is coefficient of xy, $4x$ is coefficient of y, $4y$ is coefficient of x.

Exponent.

If the side of a square is 5, what is its area? How expressed if side is m?

$m \times m = m,\ m = mm = m^2$

$m^4 = mmmm$

Aggregation.

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oooooo øø
oooooo øø

$$4 \times (7-2) = 4(7-2) = 4 \times 5 = 28-8$$
$$4+(7-2) = 4+5 = 4+7-2$$
$$4-(7-2) = 4-5 = 4-7+2$$

Show that

$$19-x-[12+(3+x-7)-4x] =$$
$$19-x-(12+3+x-7-4x) =$$
$$19-x-12-3-x+7+4x = 11+2x$$

Or you may take the coat off first.

$$19-x-12-(3+x-7)+4x$$

and then the vest,

$$19-x-12-3-x+7+4x = 11+2x$$

$$4 \times (x-6) = 4(x-6) = 4x-24$$
$$13-4(x-6) = 13-4x+24$$
$$= 37-4x$$

Positive and Negative.

If a man gains $4, loses $3, then gains $7, how much money has he?

If a man travels east 8 miles, west 12 miles, then east 10 miles, how far is he from starting point?

If the mercury at zero this morning rises 21° today, falls 12° tonight, then rises 7°tomorrow, where will it then be?

If the temperature is now +8°, what will represent the temperature after a fall (a) of 5°? (b) of 8°? (c) of 20°?

If the temperature is now —8°, what will it be after a rise (a) of 5°? (b) of 8°? (c) of 20°?

— — — —

How much more has a man with $5 in money than a man $15 in debt?

If a man was born 26 B. C. and died 53 A. D., how old was he when he died?

Subtract: 10 10 —10 —10
4 — 4 4 — 4
— — — —

6×10 6×10
3×10 -3×10

$8x+3y-4z-10m-8d+b$
$5x-5y-6z-3m+2d+7b$

In multiplication and division: When the multiplier is positive, the product will be the same sign as the multiplicand; when the multiplier is negative, the product will be the opposite sign of the multiplicand; when the divisor is positive, the quotient will be the same sign as the dividend; when the divisor is negative, the quotient will have the opposite sign to the dividend.

Rule: In multiplication and division, like signs give positive, unlike negative.

Notice $m\times m=mm=m^2$
$m^2\times m^4=mm\times mmmm=m^6$
$(8x+2xy-3y)\times3x=?$
$(8x+2xy-3y)\times(3x-3y)=?$

Lay the foundations of factoring by drills in writing products of expressions like these:

$(x-8)(x-8)=?$
$(x-8)(x-1)=?$
$(x-8)(x+4)=?$
$(x-8)(x+8)=?$
$(a+b)(a^2-ab+b^2)=?$
$(a-b)(a^2+ab+b^2)=?$

THIRD DAY.

Suggestive steps in presenting the solution of equations.

Learn these axioms:

If equals are added to equals, the results are equal.

If equals are subtracted from equals, multiplied by equals, or divided by equals, the results are equal.

Things equal to the same thing equal each other.

Add $x-8=15$
$8=8$

$x=15+8$
$x=23$

Subtract $x+8=31$
$8=8$

$x=31-8$
$x=23$

Numbers or expressions "taken across" the equation mark must change their signs.

$2x+7=34-x$
$2x+x=34-7$
$3x=27$

Divide by $3=3$
$x=9$

Other exercises:

$8x-2=6x+6$
$6y-5=9y+2$
$3k+9+5k+31=0$
$x+12-11x=-15x+22$
$0=9x-3-4x+27+16x+18$

Same principle applies to simultaneous equations:

$$\begin{cases} 2x-y=22 \\ 3x+2y=47 \end{cases}$$

$$2x-y=22$$

Multiply by $2=2$

$$4x-2y=44$$

Add $3x+2y=47$

$$7x=91$$

Divide by $7=7$

$$x=13$$

Or,

$$2x=22+y$$

$$x=\frac{22+y}{2}$$

Likewise $x=\frac{47-2y}{3}$

Last axiom, $\frac{47-2y}{3}=\frac{22+y}{2}$

Multiply by $6=6$

$$94-4y=66+3y$$

$$-4y-3y=66-94$$

$$-7y=-28$$

Divide by $-7=-7$

$$y=4$$

Solve also:

$$\begin{cases} 2x+5y=14 \\ 3x-10y=8 \end{cases}$$

$$\begin{cases} 2x-y=-1 \\ 15x-9y=20 \end{cases}$$

In elementary algebra it is not best to undertake teaching very many definitions. However, it is good language training for pupils to be taught to call things by their right names and to

understand their significance. These expressions might be learned: Mononomial, binomial, polynomial; similar and dissimilar terms; degree of a term; quadratic; eliminate, substitute; coefficient; exponent; equation.

FOURTH DAY.

Selected exercises wherein the instructor may find points not clearly understood by his corps of teachers. They are presented without suggestion, leaving him free to develop them as he best can.

Factor.

(1) $x^2+7x+12$
(2) $15+2a-a^2$
(3) $x^2-x-110$
(4) x^2-49
(5) $4x^4-4x^2+1$
(6) x^3+64
(7) x^4-100
(8) $2m^2-7m+6$
(9) $1+2x^2-3x^4$
(10) $3x^3-75x.$
(11) $25x^2y^2+16x^4-40x^3y$
(12) $12-2h-4h^2$
(13) $5x^2-15x-20$
(14) a^2-b^2-a-b
(15) a^7+a^5
(16) $16x^5-x.$
(17) $x^4+x^3+x^2+x$
(18) $9x^{5n}-x^{3n}$
(19) x^3-27
(20) y^6-343

Solve by factoring:

$x^2-2ax+a^2=0$ $\qquad$ $x^2-9x=36$

$4x^2+8x+3=0$ $\qquad$ $x^2+bx=0$

$4y=y^2-192$

$$\frac{a+33}{a^2-9}-\frac{6}{a-3}+\frac{10}{a+3}=?$$

$$3x+\frac{5}{ax}-(2x+\frac{3}{ax})=?$$

$$\frac{(a^2+b^2)^2}{ab(a-b)^2}-\frac{a}{b}-\frac{b}{a}-2=?$$

$$\frac{x^2+x-2}{x^2-7x} \times \frac{x^2-13x+42}{x^2+2x} = ?$$

$$\frac{b^2-7b+6}{b^2+3b-4} \times \frac{b^2+10b+24}{b^2-14b+48} \div \frac{b^2+6b}{b^3-8b^2} = ?$$

$$\frac{x}{1-\dfrac{x}{1+x+\dfrac{x}{1-x+x^2}}} = ?$$

Solve: $\dfrac{7x+9}{8} - \dfrac{3x+1}{7} = \dfrac{9x-13}{4} - \dfrac{249-9x}{14}$

$$\frac{10x+17}{18} - \frac{12x+2}{13x-16} = \frac{5x-4}{9}$$

$$\frac{x^2-x+1}{x-1} + \frac{x^2+x+1}{x+1} = 2x$$

FIFTH DAY.

$$51x^2 - 96 = 39x^2 + 96$$

$$\frac{14x^2+16}{21} - \frac{2x^2+8}{8x^2-11} = \frac{2x^2}{3}$$

$$(x+2)^2 = 4x+5$$

$$25x^2+20x-81 = 9x^2+4x-4$$

$$\frac{x^2}{2} - \frac{x}{3} + 20\tfrac{1}{2} = 42\tfrac{2}{3}$$

$$\frac{8x}{x+2} - \frac{20}{3x} - 6 = 0$$

$$\begin{cases} 10x + y = 3xy \\ y - x = 2 \end{cases}$$

$$\begin{cases} x + y = 2 \\ x^2 - 2xy - y^2 = 1 \end{cases}$$

$$\begin{cases} 6(x^2 - xy) = 7xy - 6y^2 \\ x^2 - y^2 = 20 \end{cases}$$

$$\begin{cases} xy - y^2 = 68 \\ x^2 - y^2 = 425 \end{cases}$$

The sum of three numbers is 272. The first is 1¼ times the second, and the third is 17 more than ⅔ of the sum of the other two. Find the numbers.

A sells B 17 sheep and then has only half as many as B; but at first he had 11 more than B. How many had each at first?

A can do a piece of work in 10 days, B in 12 days, and C in 8 days. In how many days can all together do it?

Find a fraction whose value is 4/7 and whose numerator is 15 greater than its denominator.

In the formula, $s = \frac{1}{2}at^2$, find t if s=400 and a=16.

The breadth of a basket-ball court is 20 feet less than its length. The perimeter is 80 yards. Find the dimensions.

The area of a right triangle is 55 square inches and one leg is 17 inches longer than the other. Find base and altitude.

A three-inch square is cut from each corner of a square of tin. The sides are then turned up and an open box is formed whose volume is 300 cubic inches. Find the size of the piece of tin.

CIVIL GOVERNMENT

(By D. F. McElhannon, Womble.)

FIRST DAY.

NATIONAL GOVERNMENT.

Under Articles of Confederation.

History.

1. When drafted.
2. When and how it became operative.
3. Difficulties in preparing.
   (a) The States' jealousy of England was transferred to their own general government.
   (b) States were willing to confide little power to Congress.

Defects.

1. Government had no executive officer.
2. No power to punish offenses against the law.
3. Could not regulate commerce.
4. Name several other defects.

Plans for Reorganizing the Government.

1. Annapolis Convention—When and for what purpose called.
2. Philadelphia Convention—When and for what purpose called.
3. Constitutional Convention—States represented, its work, Virginia plan, New Jersey plan.
4. Origin of parties.

Under the Constitution.

Efficiency, compared with the Articles of Confederation.

1. The powers and functions—how distributed.

Purposes.

1. To form a more perfect union.
2. To establish justice.
3. Name four other purposes.

Provisions, as to Departments of Government.

1. Legislative.
2. Executive.
3. Judicial.

SECOND DAY.

LEGISLATIVE.

House of Representatives.

1. Members.
   - (a) Number—Term of office. How elected.
   - (b) Qualifications:
     1. Age.
     2. Citizenship.
     3. Residence.
     4. Loyalty.
     5. Official disencumbrance.
2. House Powers.
   - (a) Elective.
   - (b) Inquisitorial.
   - (c) Legislative.
     1. Exclusive.
     2. Concurrent.

Senate.

1. Members.
   (a) Number. Term of office. How elected. Classes. Vacancies.
   (b) Qualifications.
      1. Age.
      2. Citizenship.
      3. Residence.
      4. Loyalty.
      5. Official disencumbrance.
2. Vice President of United States. Powers. Salary. Qualifications.
3. Senate Powers.
   (a) Elective.
   (b) Judicial.
   (c) Legislative.
   (d) Executive.

Powers of Congress.

1. Express Powers:
   (a) To lay and collect taxes.
   (b) To borrow money on credit of United States.
   (c) To regulate commerce.
   (d) To establish uniform rules of navigation.
   (e) Name six other express powers.
2. Implied Powers.
   (a) To purchase foreign territory.
   (b) To establish military and naval academies.
   (c) To make internal improvements.
   (d) To create corporations.

3. Powers Prohibited and Restricted:

(a) Mention at least ten under this head.

THIRD DAY.

Executive—Vested in a President.

1. Necessity and object.
2. Term of office.
3. Election.
4. Qualifications. (Give a reason for each.)
5. Vacancy in office of President.
   (a) May occur how?
   (b) Succession law of 1886. Members of Cabinet succeed in following order:
      1. Secretary of State.
      2. Secretary of Treasury.
      3. Secretary of War.
      4. Attorney-General.
      5. Postmaster General.
      6. Secretary of Navy.
      7. Secretary of Interior.
6. Salary—Fixed by Congress.
7. Oath of office—by whom administered.
8. Powers duties of President.
   (a) Military.
   (b) Civil.
9. Removal from office.
   (a) Impeachment by House of Representives.
   (b) Trial by Senate.
   (c) Who presides at trial of President?

(d) What is necessary to convict?

(e) What is the extent of judgment?

How are the returns from a presidential election made? How are the votes counted, and the election declared?

Why should the Senate elect the Vice President in case of a failure to elect by the electors?

What changes have been made in the salary of the President?

What other succession law have we had besides that of 1886, and what did it provide?

How was the President's Message delivered to Congress before 1801? How is it now delivered? Why?

FOURTH DAY.

Judicial Department.

1. Objects. To interpret and apply the laws.
2. Grades of Federal Courts.
   (a) Supreme Courts.
      1. Jurisdicetion.
   (b) Circuit Courts.
      1. Jurisdiction.
   (c) Circuit Courts of Appeal.
      1. Jurisdiction.
   (d) District Courts.
      1. Jurisdiction.

What is a criminal case?

What is a civil case?

What is a case in equity?

What is meant by original jurisdiction? Concurrent jurisdiction?

What four kinds of law must be considered by every judge?

How can a person obtain relief if he has a claim against a State?

Are the United States Courts open to citizens of a Territory?

How may laws of Congress be declared null and void?

Why is the independence of Federal Judiciary important? How is this independence secured?

Give an account of the Federal Courts which are outside the regular Federal system.

FIFTH DAY.

State Government.

The Township.

1. The two kinds of townships—mathematical township, township politic.
2. Government.
   (a) Judicial, in whom vested.
   (b) Executive, in whom vested.

The County.

1. Formation of counties.
2. Government.
   (a) Judicial, in whom vested.
   (b) Executive, in whom vested.
   (c) Name each administrative officer of your county and define his duties.
   (d) Have the townships and counties any legislative powers?

The State.

1. Legislative Department.
   (a) Senate—Number, term, qualifications of members.
   (b) House of Representatives—Number, term, qualifications of members.

2. Executive Department.

   (a) The Governor.

   (b) Other State officers. Term, salary, election, qualifications of each.

3. Judicial Department.

   (a) Supreme Court. Judges, number, title, term, salary.

   (b) Circuit Courts—Number.

   (c) Chancery Courts.

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